


**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

| SERIAL NUMBER | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---------------|-------------|----------------------|---------------------|
|---------------|-------------|----------------------|---------------------|

08/252,984 06/02/94 ALLEMAN

26M1/0120

 DANIEL J. KLUTH
SCHWEGMAN, LUNDBERG & WOESSNER
3500 IDS CENTER
80 SOUTH EIGHTH ST.
MINNEAPOLIS, MN 55402

| |
|-----------------------|
| J 162,211S01 |
| EXAMINER |
| MATAR, A |
| ART UNIT PAPER NUMBER |

26

 2601
DATE MAILED:

01/20/95

 This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

IN Apr. 20, 1995

July 20, 1995

☐ This application has been examined ☒ Responsive to communication filed on 11/14/94 ☐ This action is made final.

 A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133
Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION
 1. ☒ Claims 1 and 18 — 27 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

 2. ☐ Claims _____ have been cancelled.

 3. ☐ Claims _____ are allowed.

 4. ☒ Claims 1 and 18 — 27 are rejected.

 5. ☐ Claims _____ are objected to.

 6. ☐ Claims _____ are subject to restriction or election requirement.

 7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

 8. ☐ Formal drawings are required in response to this Office action.

 9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

 10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

 11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

 12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received

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Part III DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

1. Claims 1 and 18 - 27 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, stating that communication links are established between the originating station and the called party needs clarification for a station can not be connected to a party. What is meant by "a calling party places a call to said input connection"? The term "~~storing~~ stored data" is confusing for how can a stored data be stored again. How can a call be originated to the originating station of the calling party? How does the system know the telephone number of the calling party? Does the system originate the call to said originating station during the call attempt made by the calling party from the originating station? The "output" connection is considered a dangling component because it is not clear what the function if this component is. In line 31, "said calling party station" should be --said calling party--.

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In claim 18, it is not clear whether "a caller" is the same as the "subscriber". In line 22, the term "the subscriber remote telephone number" lacks clear antecedent basis because the claim previously recited "a subscriber telephone number" without the use of "remote". It is not clear as to what is meant by "connecting to the subscriber telephone station". What is being connected to the subscriber telephone station?

In claim 23, it is not clear as to what is meant by "connecting to the subscriber telephone station". What is being connected to the subscriber telephone station?

Dependent claims 19-22 and 24-27 are rejected because they depend from rejected claims 18 and 23, respectively.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 18, and 23 are rejected under 35 U.S.C. § 102(a) as being anticipated by the IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

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The article entitled "Rome to Bonn via New Jersey" (April 13, 1992) shows that a subscriber can call the IDT machine in the U.S. from a foreign country, hang up and wait for the IDT machine to call him/her back so that the subscriber can make outgoing calls utilizing the IDT machine. The article entitled "How Overseas Caller Can get Stateside Rates" (Dec. 2, 1991) shows that an overseas subscriber can call the IDT machine in the U.S. and hang up before it answers. Then the IDT machine calls back the subscriber and provides him/her with a second line to make outgoing calls.

In the specification (pages 3-4), applicant admits that in the above Prior Art system

"an input line is dedicated to a particular user. That is for each subscribing user, there is a unique dedicated input line. When the user calls into the system on that line, typically allowing it to ring once, the system employed an autodialer configuration to call the user who responds by entering the desired number. The system dials that number on another line then bridges the user with it upon response by the called party."

While specific components of the above system such as the claimed "control means", telephone exchange, trunk line are not specifically shown by the reference, such components are inherent in the IDT system. For example, the machine inherently has to have control means and the called and calling station inherently have to be connected by a telephone exchange.

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Claim Rejections - 35 USC § 103

4. Claims 1, 18 and 23 are also rejected under 35 U.S.C. § 103 as being unpatentable over the IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

As discussed above, the IDT machine performs the functions of the claimed invention but the reference does not show the specific claimed components such as control means, telephone exchange and trunk line. If the use of the above components was not inherent, it would have been obvious for one of ordinary skill in the art to utilize an exchange for connecting the calling and the called party and utilize a control means for controlling the IDT machine.

5. Claims 19-22 and 24-~~27~~ are rejected under 35 U.S.C. § 103 as being unpatentable over the IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

The above Prior Art IDT machine does not provide an indication of an invalid call if the incoming call does not terminate within a predetermined period of time or if an incorrect DID is provided by the caller.

As for announcing an invalid call attempt, in the above system each subscriber has a unique dedicated input line and the subscriber must hang up after one ring. If, for example, the a calling party does not hang up after one ring (the call does not

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meet the requirement), this of course would be considered an invalid call attempt and the designer of the system can choose how to handle such invalid calls, for example, the designer can choose to provide an announcement to the calling party. Similarly, it would have been obvious to indicate an invalid call attempt if the input provided by the calling party does not match a prestored input.

6. Claims 1 and 18-27 are rejected under 35 U.S.C. § 103 as being unpatentable over Kahn et al (U.S. Patent 4,086,438) in view of Billinger et al (US Patent 4,769,834) and further in view of Srinivasan (US Patent 5,185,782).

As shown in the previous Office actions, Kahn et al discloses an automatic interconnection system 30 for answering incoming calls and connecting the incoming call to an outgoing line for making an outgoing call. The calling party has to provide a security code which will be compared with stored codes by security code circuit 200. If a valid security code is entered by the calling party, the system will provide the calling party by a dial tone so that the calling party can make outgoing (local/long distance) calls.

The reference teaches that the calling party can call the system, dial his/her number and then hang up. In this case the system will initiate a call-back to the calling party after which

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a dial tone will be provided to that party to make outgoing calls using the system.

The reference differs from the claims in that in the reference the call is answered while in the claimed invention the call is not answered. While verifying the identity of the calling party, the reference (filed March 1977) utilizes security codes provided by the calling party. However, the claimed invention utilizes information provided by the exchange to identify the originating station (such as DID and ANI).

Billinger et al explicitly teaches the use of ANI to eliminate the need for the customer to dial an authorization code. Using ANI instead of authorization call means that the calling party can be identified without answering the call.

Utilizing the ANI provides advantages such as speed and accuracy because having the calling party manually dial his/her telephone number may cause delay and sometimes the calling party may make a mistake while dialing the number. In general, providing the number automatically is preferred over providing the number manually. Further, the calling party can be identified without having the calling party pay for the call.

Thus, while updating the Kahn et al system to meet the current technological standards as disclosed in Billinger et al, it would have been obvious to utilize the ANI to automatically identify the originating station. Numerous references teach the

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use of ANI and DID/DNIS which are provided by the telephone company in order to provide the desired services to the calling parties.

ANI (Automatic number identification) informs the system of the calling party telephone number. DNIS (dialed number identification service) and DID (direct inward dialing) provide the system with the called number that was dialed by the calling party. *Numerous references*, such as the Srinivasan reference, teach the use of the well known ANI and DNIS/DID in telecommunication services (see references cited below).

In view of the above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the DID/DNIS or the DID/DNIS & the ANI together (note that the invention as claimed and disclosed is not limited to using DID) in order to identify the calling party and decide how to handle the call. According the articles, the system is to be used for international calls which means that foreign countries may not provide the ANI to the U.S. networks, thus, one of ordinary skill in the art would prefer to depend on the number dialed by the calling party (DID/DNIS) in order to identify the calling party in the Kahn system.

As for announcing an invalid call attempt, in the above system each subscriber has a unique DID number, if for example the a calling party dials an unassigned DID number, this of

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course would be considered an invalid call attempt and the designer of the system can choose how to handle such invalid calls, for example, the designer can choose to provide an announcement to the calling party.

Response to Amendment

7. The declaration filed on 11/14/94 under 37 C.F.R. § 1.131 has been considered but is ineffective to overcome IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

First, applicant admitted (pages 3-4) of the specification that the IDT machine is prior art and thus applicant can not now change the admission of prior art.

Second, according to one of the articles submitted by applicant (The Economist, Sept. 12, 1992, page 79, column 2),

"One of the best known discounters, 2 1/2 year old International Discount Telecommunication (IDT), uses third-country calling to provide calls between countries".

Thus, according to this reference which was submitted by applicant, on Sept. 12, 1992, the IDT machine was 2 1/2 years old. This means that the IDT machine was built and used in the U.S. on or before March 12, 1990.

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Third, the evidence submitted is insufficient to establish a reduction to practice of the invention in this country prior to the date of the IDT reference. It appears from the declaration that the reduction to practice was accomplished on April 2, 1992 which is NOT prior to the date of the IDT reference (Dec. 2, 1991).

8. Applicant's arguments filed 11/14/94, regarding the rejection based on Kahn, Billinger and Srinivasan, have been fully considered but they are not deemed to be persuasive.

Examiner agrees that the Kahn system is different from the claimed invention. The difference is discussed in the 103 rejection which suggest upgrading the Kahn system in view of the teachings of the secondary references.

Applicant states that "although the claimed invention utilizes the DID number, it does not identify the originating station". Examiner respectfully disagrees for claim 1 clearly recites "identifying the originating station" and the specification clearly discloses identifying the originating station.

Examiner agrees that the ANI and DID numbers are not equivalent or interchangeable, however, as discussed in the above rejection, they represent numbers that are utilized by many references in order to improve the handling of incoming calls.

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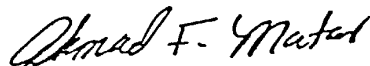
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Applicant is reminded that Inbound/Outbound Magazine (October 1989 and May 1990) teaches the use of ANI and DNIS/DID in telecommunication systems and that Richardson, Jr. et al (US Patent 5,317,627) teaches the use of DNIS tables in order to provide various application after comparing the incoming DNIS number with prestored DNIS numbers.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Matar whose telephone number is (703) 305-4731.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700. The Group's new FAX number is (703)-305-9508. This FAX number is to be used only for Group 260 papers.



Ahmad F. Matar
Primary Patent Examiner
Group Art Unit 2601

January 12, 1995

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: James H. Alleman

Filed: June 2, 1994

Serial No.: 08/252,984

Group Art Unit:

Docket: SL&W 162.002US1

Examiner:

Title: INTERACTIVE TELEPHONE SYSTEM FOR OPTIMIZING SERVICE ECONOMY

DECLARATION UNDER 37 CFR § 1.131

Hon. Commissioner of
Patents & Trademarks
Washington, D.C. 20231

Dear Sir:

I, James H. Alleman, am a professor at the University of Colorado at Boulder teaching in the Interdisciplinary Telecommunications Program in the College of Engineering. I am also employed by Paragon Services International, Inc., the assignee of the above-identified patent application.

I am the sole inventor of the subject matter claimed in the above-identified US patent application serial no. 08/252,984, filed June 2, 1994, which is a File Wrapper Continuation of patent application serial no. 07/873,323, filed April 24, 1992.

I am submitting this declaration under 37 CFR § 1.131 to remove certain references from consideration which were cited by the Examiner as detailed below.

I have read and understood the office action mailed August 10, 1994, and the references cited therein and make this declaration in support of the patentability of the claims of the patent application serial no. 08/252,984.

This declaration made under 37 CFR § 1.131 is made in response to the rejections of the claims in the aforesaid office action under 35 USC § 103 based on the *Business Week*

DECLARATION UNDER 37 CFR, SECTION 1.131

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Inventor: James H. Alleman

Serial No: 08/252,984

Filed: June 2, 1994

article dated April 13, 1992, entitled "Rome to Bonn via New Jersey" and the *Business Week* article dated December 2, 1991, entitled "How Overseas Callers Can Get State Side Rates".

Prior to December 2, 1991, the date of publication of the *Business Week* article entitled "How Overseas Callers Can Get State Side Rates", I conceived the above-identified and claimed invention. As factual evidence of this, the following facts are entered with supporting documentation.

Prior to December 2, 1991, I began developing and experimenting with a "stand-alone box" which was an early hardware implementation of a call-back system. This early system only allowed a caller to call into a dedicated telephone line and the "stand-alone box" answered the line and connected the caller to a second telephone line. I began testing the "stand-alone box" on or about January 29, 1989 with Mr. Theo Brenner located in Switzerland and with Mr. Fadi Ganhdour who was located in Jordan. Mr. Brenner and Mr. Ganhdour agreed to keep this experimental testing in confidence.

On or about April 29, 1990, design and development of a more advanced and computerized interactive telephone system for optimizing service economy was begun with the hiring of Mr. James Gunther of GTE, an engineer and software developer hired to implement my invention. As evidence of this development, attached hereto and incorporated by reference herein are the following Exhibits:

Exhibit A: Fax letter dated April 29, 1990 to Mr. James Gunther regarding the development effort.

Exhibit B: An Order, Authorization and Certificate from the Federal Communications Commission (FCC) adopted June 6, 1990, and released June 13, 1990, authorizing Paragon Systems International, Inc. to operate as an international resale carrier.

DECLARATION UNDER 37 CFR, SECTION 1.131

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Inventor: James H. Alleman

Serial No: 08/252,984

Filed: June 2, 1994

Exhibit C: Letter dated June 27, 1990 to Mr. James Gunther regarding the development and specifications of the "router" portion of the design. This letter includes, as attachments, descriptions of the DID six line support functionality, the router functionality and the software functionality as it existed on that date.

On or about October 15, 1990, discussions began between myself and Call Interactive, a joint venture of AT&T and American Express Information Services Company. Call Interactive had the telephone infrastructure we desired as a platform for implementing the fully-functioning portion of this invention. This was a confidential relationship and Call Interactive was hired as a mere implementor of the present invention. As evidence of this, attached hereto and incorporated by reference herein is Exhibit D, a Confidential Disclosure Agreement between Paragon Services International, Inc. (the predecessor of the present assignee of interest) and myself in my capacity as CEO of Paragon Services International, Inc.

On April 25, 1991, the present invention was placed in public and commercial use using Call Interactive as the hardware and computer platform. See Exhibit E. Within one year of the initial operation of the present invention by Call Interactive, I filed the above identified patent application.

Between the time of initial software development of the computerized interactive telephone system for optimizing service economy by Mr. James Gunther in April of 1990, until the activation of the service provided by Call Interactive on April 25, 1991, some public, experimental use was conducted of the present invention. The present invention required overseas telephone experimentation to test the system functions over long distance international lines. For example, voice quality improvements when bridging international calls, the timing of signals, elimination of false signals to the computer, sizing of the telephone line circuits and the refinement of improper dialing procedures. This experimental

DECLARATION UNDER 37 CFR, SECTION 1.131

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Inventor: James H. Alleman

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Filed: June 2, 1994

period was termed "beta" testing as shown in the attached Exhibit F and in spite of optimistic predictions of its conclusion, the present invention continued to be non-functional well past the "live" operation date with Call Interactive.

As such, the present invention was not yet reduced to practice until it could be demonstrated to function properly. As evidence of this non-functioning and poor functioning, the following additional exhibits are entered:

Exhibit G: A memorandum from Kent Parkinson of Call Interactive to Tom Thompson and John Killion describing the subscriber file format for the system. The system was not yet fully operational and still required definition at this late date.

Exhibit H: A Letter to Mr. Theo Brunner dated December 16, 1991 indicating Paragon's attempts to correct failures indicated in Mr. Brunner's beta site operation.

Exhibit I: A letter to myself, James Alleman, from Gale Curtright dated April 2, 1992 describing the final functional operation of the hang-up detection circuitry.

Applicants have been diligent in bringing this invention to the attention of the United States Patent Office prior to December 2, 1991, to the filing date of the application on April 24, 1992. As evidence of this diligence, attached hereto and incorporated by reference herein as Exhibit J is a letter from John P. Halloway, the patent officer at the University of Colorado Foundation, Inc., dated March 29, 1991, receiving the disclosure of the present patent application to the University of Colorado Foundation, Inc. Thereafter, patent attorney Earl Hancock prepared and filed the present patent application in a diligent fashion.

It is respectfully submitted that the present patent application claims an invention which was conceived prior to December 2, 1991, with due diligence from prior to December

DECLARATION UNDER 37 CFR, SECTION 1.131

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Inventor: James H. Alleman

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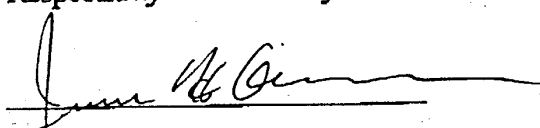
Filed: June 2, 1994

2, 1991, up to April 24, 1992, the filing date of the parent of the present patent application. Thus the *Business Week* article dated December 2, 1991, and the *Business Week* article dated April 13, 1992 should be removed as references under 35 USC, § 103.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted by

Dated

June 9, 1994
James H. Alleman

FAX LETTER

July 5, 1990
DATE: April 29, 1990

PLEASE DELIVER THE FOLLOWING TO: Mr. Jim Gunther

LOCATION: GTE Service Corporation

TEL NO: 214 718 5136

FAX NO: 214 718 4399

TRANSMISSION SENT BY:

NAME: JAMES ALLEMAN

LOCATION: Paragon Services International, Inc.

TEL NO: 402-554-2481

FAX NO: 402-554-3363

COMMENTS:

The following pages are the screens after various attempts at using the router software. The lines represent new attempts. I encounter problems on my home and PSI's lines, but they both have custom calling features, which may have interfered with the signalling. When I went to lines without custom calling the software worked much better, although it had some failures. I have attempted to document them on the print out.

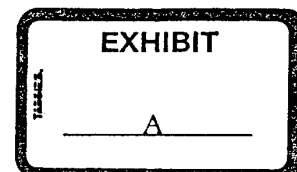
One minor point, in the call back mode, the voice response does not occur for about 6 or 7 seconds. This seems too long -- two to three might be better. On the other hand, when I hit star to terminate a call, I hear the voice response right away. The timing on this is perfect.

I will attempt to connect Jordan after your evaluation of these problems.

Regards,

Jim

COVER PAGE + 3 PAGE(S)
IF ANY PROBLEMS WITH TRANSMISSION, CALL 402 554 2647



Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

PARAGON SYSTEMS
INTERNATIONAL, INC.

File No. I-T-C-90-074

Application for authority to operate
as an international resale carrier.

ORDER, AUTHORIZATION AND CERTIFICATE

Adopted: June 6, 1990;

Released: June 13, 1990

By the Chief, International Facilities Division

1. The above-captioned application, filed on March 13, 1990 by Paragon Systems International, Inc. (PSI), requests authority pursuant to Section 314 of the Communications Act of 1934, as amended, to resell the switched message telephone services of existing common carriers to provide international switched voice service between the U.S. and various overseas points. The application was placed on public notice on March 21, 1990. No comments were received.

2. The applicant is a start-up company which proposes to resell international switched voice services in competition with other common carriers already providing resale of such services. PSI has filed information required by Section 63.01 of the Commission's Rules. In authorizations of new entrants over the past decade, the Commission has recognized that increased competition in international markets is beneficial.¹ We find that the market will support additional carriers and that the added competition will be in the public interest.²

3. For the foregoing reasons, IT IS CERTIFIED that the present and future public convenience and necessity require the provision of international switched voice services to the general public by PSI.

4. Accordingly, IT IS ORDERED that application File No. I-T-C-90-074, IS GRANTED, and PSI is authorized to provide international switched voice services by the resale of the international switched voice services set forth in AT&T's Tariff F.C.C. No. 1 and 2, MCI's Tariff F.C.C. No. 1, US Sprint's Tariffs F.C.C. Nos. 1 and 2 and Allnet's Tariff F.C.C. No. 1, between the United States and the points listed in those tariffs.

5. Copies of any operating agreements entered into between the applicant and its correspondents shall be filed with the Commission within 30 days of their execution.

6. IT IS FURTHER ORDERED that the applicant shall file a tariff pursuant to Section 203 of the Communications Act, 47 U.S.C. Section 203, and Part 61 of the Commission's Rules, 47 C.F.R. Part 61, for the services authorized in this Order.

7. IT IS FURTHER ORDERED that the applicant shall file the annual reports of overseas telecommunications traffic required by Section 43.61 of the Commission's Rules, 47 C.F.R. §43.61 (October 1, 1989).

8. This order is entered under Section 0.291 of the Commission's Rules and is effective upon release. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's Rules may be filed within 30 days of public notice of this order (see Section 1.4(b)(2)).

FEDERAL COMMUNICATIONS COMMISSION

George S. Li
Chief, International Facilities Division
Common Carrier Bureau

FOOTNOTES

¹ See, e.g., the cases cited in the Teltec Saving Communications Co., File No. I-T-C-86-062, Mimeo No. 3548, (released April 2, 1986) at n.2.

² FCC v. RCA Communications, Inc., 346 U.S. 86 (1953); Mackay Radio and Telegraph Co., 28 FCC 231 (1960).

EXHIBIT

B



PARAGON SERVICES INTERNATIONAL, INC.
405 SOUTH SIXTEENTH STREET • SUITE 1401 • OMAHA, NE 68102
•1 402 345-0181

June 27, 1990

Jim Gunther
GTE
4500 Fuller Drive, F03A25
Irving, Texas 75015-2092

Dear Jim,

The attached note gives more specifications on "the router" and the functionality it should have. Thus far, it seems to work fine on calling back and on the cross connect. The release of the second line, however, is sometimes a problem. It may only be on the two lines I am using, which have custom calling features. I will continue to monitor this on outside calls. I think there is a function that allows the system to hang up.

In addition, I am enclosing my versions of PKARC and PKXARC and Procom, although your system seems to handle the transfer quite adequately. We now need to move forward on the DID software. I have written this up as a separate section.

Things are moving forward quickly.

Warm regards,

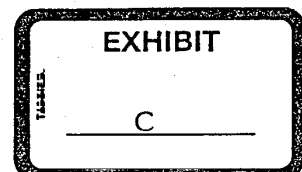

Jim

JA/gh

Attachments

P.S. I've also included an earlier software write-up. Most of this seems to be in your program already.

✓ disk was sent



DID's 6 line support Functionality

The DID software should initially support 1 DID trunk, terminating in one of the D4x boards. Twenty (20) to one-hundred (100) Did numbers should be handled.

Then, the phone list (phone.lst) would provide the support for this number of DID's. Initially, PSI will have six (6) lines in service, outgoing. (They are 342-5206, 341-0198, 345-0294, 342-5228, 341-0173 and 345-0181). The last two numbers are the last ones the program should call--they are the ones I use at home.

This will allow the test of the system with several customers and estimate the need for T1 carriers and get a better sense of the demands on the system.

The Router Functionality

In addition to the call back and connection features, the router should have a variety of functionalities that the software currently does not provide.

- 1) Automatic redial on the first call if a failure occurs. The 3rd or 4th attempt should be on an ATT override, i.e. 10288 followed by the appropriate digits.
- 2) Pressing the star twice (**) should disconnect the current call and allow the user to make another call. (This avoids an accidental disconnect.)
- 3) A voice warning to the user that too many or too few digits have been dialed or if a time-out occurs.
- 4) A warning to the user that the time-out is about to occur and will terminate the call. The user could start over by pressing star twice (**).
- 5) The search to find the first open pair to return calls (Is this functionality already there?).

More items can be added to this list, but these are the priorities.

Long Term Considerations

Proposed Additional Functionality of the Router Software and Hardware.

In addition, the Router software and hardware should be capable of handling fax services, providing electronic mail boxes and storing forward mail boxes and Telex services via the PSI network. This would be quite useful to individuals here in different time zones.

6-27-90

Software Functionality

1. Recognize the existence of an incoming call to a specific line or DID number.
2. Determine if it rings more than one time. If so, begin the initiation of a call to the identified caller.
3. If the call rings longer than five (5) rings; terminate the call initiated in 2, above.
4. Determine if the call initiated in 2 above is ringing at the destination, trunk busy or "cannot call at this time."
5. Re-initiate the call if it is not ringing at the destination and continue to re-initiate the call until it rings at the destination (i.e. repeat 4) or until fifteen minutes has passed.
6. Listen for an answer to the call. Upon detection of answer, give voice response "Please dial now and terminate with *."
7. Listen for digits dialed and *. Have a time-out function if no digits are dialed in two (2) minutes or no activity on line.
8. Listen for action on line and **.
9. Upon detection of ** sign, offer voice response to initiate the next call.
10. Repeat 7, 8, and 9 until on hook or ** sign is detected. (Time-out function of 7 is fall back.)
11. If on line detected, hand up and prepare for next calls.
12. Match caller (on first line) and calls on second line i.e. callers I.D., time of day, date, the number(s) called, and minutes called.
13. Off load data captured in 12 at specified intervals: use one (1) hour initially.

CALL INTERACTIVE

A joint venture of American Express Information Services Corporation and AT&T.

HEADQUARTERS OFFICE:
2301 North 117th Avenue
Omaha, NE 68164
Tel: (402) 498-7000 Fax: (402) 498-7900

October 15, 1990

Schwegman, Lundberg &
Woessner, P.A.

SEP 06 1994

RECEIVED

Mr. James Alleman
Acting CEO
Paragon Services International, Inc.
405 South 16th Street, Suite 1401
Omaha, NE 68102-2614

Dear Jim:

In connection with a prospective business relationship between Call Interactive and Paragon, our discussions will involve information which Call Interactive or Paragon considers confidential, proprietary and/or sensitive ("CONFIDENTIAL INFORMATION").

Each of Call Interactive and Paragon agrees to keep confidential and to use solely for purposes of these discussion and related presentation material of October 15, 1990, any Confidential Information provided to it by the other (the "Providing Party") in connection with these discussions including PSI's Business Plan, slides and related material used in PSI's presentation of October 15, 1990. As used herein, "Confidential Information" shall mean any non-public, confidential proprietary information provided by the Providing Party to the other (the "Receiving Party") relating to this Agreement, the services to be rendered hereunder or the transactions contemplated hereby, including without limitation, pricing and material terms and conditions of these discussions and any Supplement, intellectual property, enabling software, programming and the computer based interactive system developed by Call Interactive (the "System"), except that Confidential Information does not include any information that

- (i) is required by law to be disclosed:
- (ii) that is provided orally, unless prior to the communication of such information, the Receiving Party is advised that it is non-public, proprietary and confidential and has agreed to accept such information, and within 30 days after the day on which first communicated it is designated as Confidential Information in writing by the Providing party (and the parties agree in writing that such writing accurately represents the previous oral disclosure):
- (iii) was available to the Receiving Party, or its directors, agents, employees or representative, prior to its disclosure to the Receiving Party by the Providing Party:



AT&T

AMERICAN EXPRESS
INFORMATION
SERVICES



EXHIBIT

D

- (iv) was known or becomes generally available to the public or to competitors of the parties hereto other than as a result of disclosure by the Receiving Party;
- (v) becomes available to the Receiving Party, or its directors, agents, employees or representatives, from a source other than the Providing Party or its representatives which source was not subject to any non-disclosure obligations to the providing Party with respect to such information;
- (vi) was independently developed (and substantiated in writing as such) by the Receiving Party.

Subject to (ii) above, any Confidential Information furnished by the Providing Party must be in written and/or other tangible form, will be identified to the Receiving Party at the time of its disclosure and will be clearly marked with a Legend which indicates its confidential and proprietary nature. Each of the parties hereto agrees that the Confidential Information will not be used by it in any way other than in connection with these discussions, and that Confidential Information will be kept confidential by such party and its employees and authorized representatives (to whom such Confidential Information may be disclosed only on a need-to-know basis), and shall not, except as hereinafter provided, be disclosed by such party or its directors, agents, employees or representative without the written consent of the other party. Each of Call Interactive and Paragon agrees that Confidential Information may be disclosed without the written consent of the other party on a need-to-know basis but confidential to the common carrier or billing series is replaced by "services" provider in connection with the approvals required by the them in connection with a program of Paragon.

In the event that Paragon Call or Interactive is requested or required by government compulsion (by oral questions, interrogatories, requests for information or document, subpoena, civil investigative demand or similar process) to disclose any Confidential Information, such party agrees to provide prompt notice to the providing party so that the Providing Party may seek a protective order to take other appropriate action. It is further agreed that in, in the absence of a protective order or the receipt of a waiver hereunder, the Receiving party is nonetheless, in the opinion of its counsel, compelled to disclose the Confidential Information to any tribunal or in any proceeding or else stand liable for contempt or suffer other censure or penalty, the Receiving party may disclose such Confidential Information to such tribunal or in such proceeding without liability hereunder but will take all step to assist the providing Party in obtaining confidential treatment thereof.

All Confidential Information shall remain the property of the Providing Party and not be used by the receiving party in any manner what so ever without prior written consent of the providing party. Confidential information shall be returned to the Providing Party upon its request or upon the Receiving Party's determination that it no longer has a need for such Confidential Information.

Each of Call Interactive and Paragon agrees that if there is a breach of threatened breafch of this Agreement, money damages would not be sufficient remedy, and that the providing party shall be entitled to appropriate injunctive or other equitable relief as a remedy for any such breach or threatened breach.

Nothing herein shall be construed as prohibiting the Providing Party from pursuing any other remedies for such breach or threatened breach.

This agreement shall be governed by the laws of the State of New York, without regard to conflicts of laws principles.

This agreement may only be amended in writing by both parties.

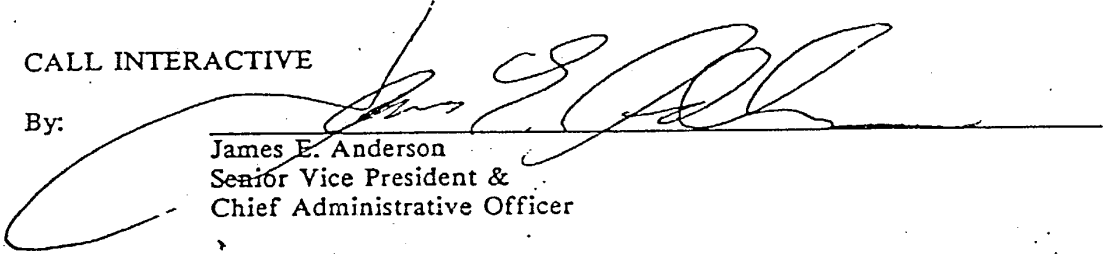
Please acknowledge your agreement with the foregoing by signing a copy of this letter in the space provided and returning it to the undersigned.

We look forward to working with you toward a mutually beneficial relationship.

Very truly yours,

CALL INTERACTIVE

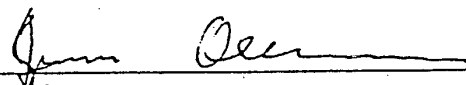
By:



James E. Anderson
Senior Vice President &
Chief Administrative Officer

Accepted and Agreed to:

By:



James Alleman
Acting CEO

CII

CALL INTERACTIVE

A joint venture of American Express Information Services Corporation and AT&T.

HEADQUARTERS OFFICE:
2301 North 117th Avenue
Omaha, NE 68164
Tel: (402) 498-7000 Fax: (402) 498-7900

March 6, 1991

James E. Anderson
Senior Vice President and
Chief Administrative Officer

Jim Alleman
Paragon Services
International, Inc.
405 South 16th., Suite 1401
Omaha, NE 68102-2614

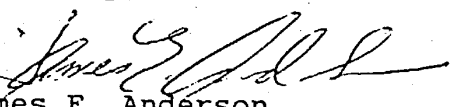
Dear Jim:

We are very pleased that negotiations have been successfully completed between our two companies. We look forward to a long and rewarding relationship.

Our technical team is moving ahead full speed with the development of the service and we appear to be on schedule for our turn-up on April 25, 1991.

Again, welcome to Call Interactive.

Sincerely,


James E. Anderson
Sr. Vice President/
Chief Administrative Officer

JEA/jh



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EXHIBIT

E

Paragon Services International, Inc.
405 South 16th., Suite 1401
Omaha, NE 68102-2614
USA

PRESS RELEASE

FOR IMMEDIATE RELEASE

January 10, 1991

**PARAGON SERVICES INTERNATIONAL UPGRADES TO NEW SYSTEM FOR
DISCOUNTED INTERNATIONAL VOICE TELEPHONY SERVICE**

Paragon Services International, Inc. has developed and implemented a new system to supply discounted international voice telephony service.

Paragon Services International, Inc. is engaged in the resale of telephone service, principally to international points, and has developed the hardware and software driven "proprietary router" which allows for the resale of international telephone service at rates twenty to fifty percent below standard international tariff charges.

Dr. James Alleman, Chairman of Paragon Services International, Inc., stated, "While our international customers currently enjoy the best international voice telephone rates in their respective countries, the new system will significantly improve the quality, reliability and speed of connection for PSI's customers."

The system has been in "beta" testing since October 1990 and is now fully operational. In addition to the discounted international voice traffic, PSI offers detailed billing and other enhancements not usually available from foreign national providers. PSI rates for service in Greece, shown on the overleaf, are illustrative of the savings once can achieve with this service. Equivalent savings can be realized in many other markets as well.

For additional information contact:

Gloria Patchen-Houstoun or Michael Shonka
Paragon Services International, Inc. at 402 345 0181

pr_0

EXHIBIT

F

MEMORANDUM

March 27, 1991

Important FYI
(7)

To: Tom Thompson
John Killion

cc: Vince Marco

From: Kent Parkison

Subject: Subscriber Floppy Disk File

The following is a description of the subscriber file we will be using in building the Paragon data base. I have listed the limitations of the current system so everyone will have an understanding of what is required for input.

Subscriber File Layout

~~DID <sub name> Country Code Phone # (client Id) <start> <stop> (PIN) (DEMO) (SPARE)~~

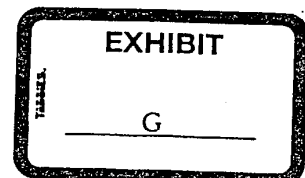
Information not delimited by a <> or a {} is required information. Information contained in <> will not be used by the ARU software and will be stripped out. Information contained in {} is optionally included. ~~Note the placement of information inside commas.~~
~~Important~~

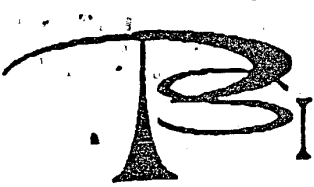
Other Data Checks

The following are additional data checks that will be made on the lengths of fields in the Subscriber file.

| | |
|--------------|---|
| DID | Must be four characters. |
| Country Code | Must be between one to four characters. |
| Phone # | This field plus the Country Code must be less than or equal to thirty characters. |
| | NOTE: For domestic calls this should include the area code. |
| Client Id | If present must be less than six characters. |
| PIN | If present must be five characters. |
| DEMO | If present must be single "n" or "y" character. |
| SPARE | Future use. |

Call Interactive - Proprietary and Confidential





Paragon Services International, Inc.

December 16, 1991

Mr. Theo E. Brenner, President
Franklin College Switzerland
Via Ponte Tresa 29
6924 Sorengo (Lugano)
Switzerland

Dear Theo:

This is a belated response to your November 20, 1991 facsimile to Jim Alleman.

We certainly appreciate your payments on account.

Enclosed are October PSI invoices including post-facto corrections which make our rates competitive with the Swiss PTT rates to the USA. In addition these new rates were used to re-calculate your office and home calls for the period April 25th through September 30th and provided a credit adjustment.

We feel the revised rates are directly competitive with the AT&T USA Direct tariff. AT&T's printed rate is \$1.87 (USA \$) for the initial minute and \$1.09 for each additional minute plus a \$2.50 Service Charge to each Calling Card billed call. Using the PSI network an example rate for a five (5) minute, Switzerland-to-USA call, at your 1pm-7pm time, will now cost only an average of \$1.20 (USA \$) per minute...a savings of over 20% versus the PTT rate. Similarly, an example PSI five (5) minute call at your 7pm-Midnight time will average \$1.08 per minute (still a savings over the PTT charges).

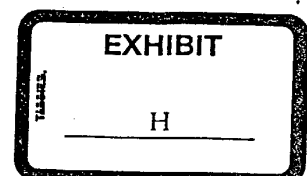
It has taken until Monday of this week to track the "trouble" incident you experienced from your home the evening of November 21st. Our service vendor finally reported their records do indicate the "attempts" you made to activate a callback to your number. Unfortunately it seems there was an "all AT&T circuits busy" condition each time you tried the service during approximately a one hour period. Everything was dialed correctly, merely a circuit busy condition over which we have no control.

We are always concerned about call progress difficulties. As a suggestion, if you incur any trouble condition, please do not hesitate to dial our 24-hour, PSI Trouble Reporting Number, 1-402-498-7700. Often the trouble desk is able to immediately take action to trace the difficulty and provide a remedy.

Happy Holidays!

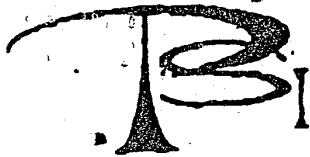
Sincerely,

Gale H. Curtright
Director of Operations
402-478-6885



Enclosures:

Paragon Services International, Inc. - Lincoln Operations Office - 1701 South 17th Street, Lincoln, Nebraska 68502 - USA



Paragon Services International, Inc.

FACSIMILE CORRESPONDENCE - 303-442-9125

April 2, 1992

Mr. Jim Alleman, CEO
Paragon Services International, Inc.
4840 Riverbend Road, Suite 4
Boulder, Colorado 80301

Dear Jim:

The Prairie Systems PSI Callback US System is operational.

There are three (3) important changes to the dialing instructions. They are:

- 1) Each account now has a **NEW** Personal Access Number:

| <u>Old Access Number</u> | <u>Account Name</u> | <u>NEW ACCESS NUMBER</u> | <u>CallBack Number</u> |
|--------------------------|---------------------|--------------------------|------------------------|
| 4100 | Jim Alleman PSI Ofc | 402-398-4380 | 303-443-4250 |
| 4147 | Barbara Miller Ofc | 402-398-4382 | 202-647-0597 |

- 2) When you call your "Personal Access Number" you will hear a continuous tone (instead of ringing). When you hear the tone, hang up the receiver and wait for the callback.

- 3) After connection to the PSI network, to call within the USA it is necessary to dial "01" before the Area Code and Telephone Number.

Enclosed is a page of "Revised Dialing Instructions". Because we are now served by improved switching equipment, it is no longer necessary to terminate a call by pressing the star button twice (* *). We have full network supervision to detect proper hang-up.

At this time Prairie Systems is unable to provide a Travel Call/Demo number process to allow the user to enter the current telephone number for callback. Thompson indicates he can work this in later on. It maybe they haven't even got this feature for the competition - or - are concerned we would want to operate this feature in the USA on an 800# which might stress their contract with others.

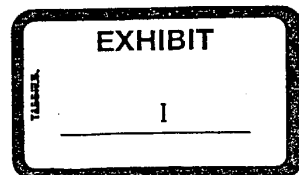
Remember the abbreviated cost for a USA-to-USA domestic call (via callback) is approximately \$0.12 for the front haul, plus CPU and backhaul minutes @ \$0.225 first minute and \$0.32 each additional minute. Thus (after the first minute) PSI's costs are at least \$0.44 each additional minute. O.K. for demos...poor for domestic calling.

Will you please advise Barbara about her Access Number.

Sincerely,


Gale Curtright
Director of Operations

Enclosure: (1)



Foundation Center
1305 University Avenue
Bldg. Box 1111
Boulder, Colorado 80302
(303) 440-1111

March 29, 1991

Dr. James Alleman
Paragon Services International, Inc. (PSI, Inc.)
405 S. 16th St., Suite 1401
Omaha, NE 68102

RE: System for Telecommunication Marketing

Dear Jim:

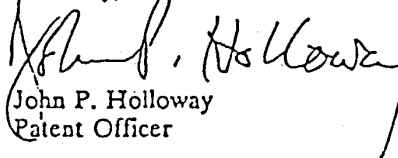
This will verify our conversations on March 21 concerning the protection and licensing of the above referenced invention disclosure which you discovered and reduced to practice on your own time and through the efforts of PSI, Inc., a company basically owned by you.

You have advised that you will join the University as a member of its faculty in August as an Associate Professor in the Interdisciplinary Telecommunications program where you anticipate further work will be done on your discovery. You would like the University and your department to participate in the fruits of commercial exploitation, but believe that the existing royalty sharing formula would not be entirely fair to you because of your earlier inventorship and development.

I agree and upon your formal disclosure of the invention to me, I would be willing to seek protection and licensing at Foundation expense. If it is commercially exploited, I would seek to fully reimburse the Foundation for its out-of-pocket patenting and licensing expenses, and I would distribute the remainder 50% to PSI, Inc. with the other 50% being divided in thirds between your research account, your department, and the remaining one-third to the Foundation/University.

If this meets with your approval please signify below and return this letter to me, retaining a copy for your file. The disclosure form which I gave you should be sent to me but please feel at liberty to communicate directly with Earl C. Hancock, Esq., who the Foundation will retain in this matter.

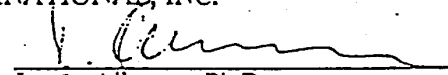
Sincerely,


John P. Holloway
Patent Officer

I accept and approve of this distribution specified above.

PARAGON SERVICES
INTERNATIONAL, INC.

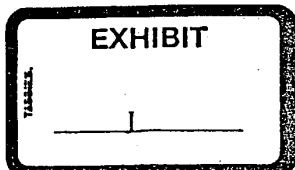
By:


James Alleman, Ph.D.
for the company and on behalf of himself

JPH/pmb

cc: Earl C. Hancock, Esq.

EXHIBIT



APPENDIX A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: James H. Alleman

Examiner: A. Matar

Serial # : not available yet

Group Art Unit: 2601

Parent Serial # : 07/873,323

Filed : June 2, 1994

Docket: 162.2-US-01

Title : Interactive Telephone System for Optimizing Service Economy

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

In response to the Final Office Action mailed January 14, 1994 in the parent patent application to this application, to which the attached File Wrapper Continuation Application has been filed, and preliminary to examination, please amend the above-identified patent application as follows.

In the Drawings

Figure 3 has been changed according to the red-line drawing previously mailed on March 28, 1994.

In the Claims

Please delete claims 2-17.

Please add new claims 18-27 as follows:

The amendment changes the scope of independent claim 1. Applicant believes that adding limitations of dependent claim 5 to claim 1 does not change the scope of the invention claimed in claim 1. Examiner respectfully disagrees because dependent claim 5 depends from claim 4 and only a portion of the limitations in claims 4 and 5 has be selectively added to claim 1, this changes the scope of claim 1 and introduces a new claim. The term "dialed telephone number corresponding to the destination station" has never been recited in claims 1 or 5 before.

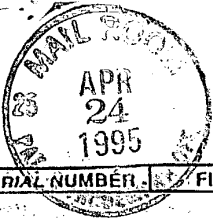
The amendment refers to proposed drawing correction, yet no drawings were filed.

Claims 2 and 3 are still unclear. Claim 3 has not been amended to clarify the language. In claim 2, it is not clear what is meant by "in response thereto". In claim 1, what is the source for the "dialed telephone number corresponding to the destination station". Claim 10 contains a typographical error at the beginning of the step of "establishing a communication connection ...".

This advisory action will be mailed to the inventor because the power of attorney has not been accepted.


Examiner : A. Matar


JAMES L. DWYER
SUPERVISORY PATENT EXAMINER
GROUP 2600



APPENDIX B

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark OfficeAddress: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

| | | | |
|---------------|-------------|----------------------|---------------------|
| SERIAL NUMBER | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---------------|-------------|----------------------|---------------------|

08/252,984 06/02/94 ALLEMAN

26M1/0120

| |
|-------------|
| J 162,21501 |
| EXAMINER |

MATAR, A

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

26

2601

DATE MAILED:

01/20/95

DANIEL J. KLUTH
SCHWEGMAN, LUNDBERG & WOESSNER
3500 IDS CENTER
80 SOUTH EIGHTH ST.
MINNEAPOLIS, MN 55402This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

N Apr. 20, 1995

July 20, 1995

☐ This application has been examined ☒ Responsive to communication filed on 11/14/94 ☐ This action is made final.A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

- 1.
- ☒
- Claims 1 and 18 — 27 are pending in the application.

Of the above, claims — are withdrawn from consideration.

- 2.
- ☐
- Claims — have been cancelled.

- 3.
- ☐
- Claims — are allowed.

- 4.
- ☒
- Claims 1 and 18 — 27 are rejected.

- 5.
- ☐
- Claims — are objected to.

- 6.
- ☐
- Claims — are subject to restriction or election requirement.

- 7.
- ☐
- This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

- 8.
- ☐
- Formal drawings are required in response to this Office action.

- 9.
- ☐
- The corrected or substitute drawings have been received on —. Under 37 C.F.R. 1.84 these drawings are
- ☐
- acceptable;
- ☐
- not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

- 10.
- ☐
- The proposed additional or substitute sheet(s) of drawings, filed on —, has (have) been
- ☐
- approved by the examiner;
- ☐
- disapproved by the examiner (see explanation).

- 11.
- ☐
- The proposed drawing correction, filed —, has been
- ☐
- approved;
- ☐
- disapproved (see explanation).

- 12.
- ☐
- Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has
- ☐
- been received
- ☐
- not been received
-
- ☐
- been filed in parent application, serial no. —; filed on —.

Serial Number: 08/252,984 2nd

-2-

Art Unit: 2601

Part III DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

1. Claims 1 and 18 - 27 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, stating that communication links are established between the originating station and the called party needs clarification for a station can not be connected to a party. What is meant by "a calling party places a call to said input connection"? The term "storing stored data" is confusing for how can a stored data be stored again. How can a call be originated to the originating station of the calling party? How does the system know the telephone number of the calling party? Does the system originate the call to said originating station during the call attempt made by the calling party from the originating station? The "output" connection is considered a dangling component because it is not clear what the function if this component is. In line 31, "said calling party station" should be --said calling party--.

Serial Number: 08/252,984 2nd

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Art Unit: 2601

In claim 18, it is not clear whether "a caller" is the same as the "subscriber". In line 22, the term "the subscriber remote telephone number" lacks clear antecedent basis because the claim previously recited "a subscriber telephone number" without the use of "remote". It is not clear as to what is meant by "connecting to the subscriber telephone station". What is being connected to the subscriber telephone station?

In claim 23, it is not clear as to what is meant by "connecting to the subscriber telephone station". What is being connected to the subscriber telephone station?

Dependent claims 19-22 and 24-27 are rejected because they depend from rejected claims 18 and 23, respectively.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 18, and 23 are rejected under 35 U.S.C. § 102(a) as being anticipated by the IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

Serial Number: 08/252,984 2nd

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Art Unit: 2601

The article entitled "Rome to Bonn via New Jersey" (April 13, 1992) shows that a subscriber can call the IDT machine in the U.S. from a foreign country, hang up and wait for the IDT machine to call him/her back so that the subscriber can make outgoing calls utilizing the IDT machine. The article entitled "How Overseas Caller Can get Stateside Rates" (Dec. 2, 1991) shows that an overseas subscriber can call the IDT machine in the U.S. and hang up before it answers. Then the IDT machine calls back the subscriber and provides him/her with a second line to make outgoing calls.

In the specification (pages 3-4), applicant admits that in the above Prior Art system

"an input line is dedicated to a particular user. That is for each subscribing user, there is a unique dedicated input line. When the user calls into the system on that line, typically allowing it to ring once, the system employed an autodialer configuration to call the user who responds by entering the desired number. The system dials that number on another line then bridges the user with it upon response by the called party."

While specific components of the above system such as the claimed "control means", telephone exchange, trunk line are not specifically shown by the reference, such components are inherent in the IDT system. For example, the machine inherently has to have control means and the called and calling station inherently have to be connected by a telephone exchange.

Art Unit: 2601

Claim Rejections - 35 USC § 103

4. Claims 1, 18 and 23 are also rejected under 35 U.S.C. § 103 as being unpatentable over the IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

As discussed above, the IDT machine performs the functions of the claimed invention but the reference does not show the specific claimed components such as control means, telephone exchange and trunk line. If the use of the above components was not inherent, it would have been obvious for one of ordinary skill in the art to utilize an exchange for connecting the calling and the called party and utilize a control means for controlling the IDT machine.

5. Claims 19-22 and 24-~~27~~ are rejected under 35 U.S.C. § 103 as being unpatentable over the IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

The above Prior Art IDT machine does not provide an indication of an invalid call if the incoming call does not terminate within a predetermined period of time or if an incorrect DID is provided by the caller.

As for announcing an invalid call attempt, in the above system each subscriber has a unique dedicated input line and the subscriber must hang up after one ring. If, for example, the a calling party does not hang up after one ring (the call does not

Serial Number: 08/252,984 2nd

-6-

Art Unit: 2601

meet the requirement), this of course would be considered an invalid call attempt and the designer of the system can choose how to handle such invalid calls, for example, the designer can choose to provide an announcement to the calling party. Similarly, it would have been obvious to indicate an invalid call attempt if the input provided by the calling party does not match a prestored input.

6. Claims 1 and 18-27 are rejected under 35 U.S.C. § 103 as being unpatentable over Kahn et al (U.S. Patent 4,086,438) in view of Billinger et al (US Patent 4,769,834) and further in view of Srinivasan (US Patent 5,185,782).

As shown in the previous Office actions, Kahn et al discloses an automatic interconnection system 30 for answering incoming calls and connecting the incoming call to an outgoing line for making an outgoing call. The calling party has to provide a security code which will be compared with stored codes by security code circuit 200. If a valid security code is entered by the calling party, the system will provide the calling party by a dial tone so that the calling party can make outgoing (local/long distance) calls.

The reference teaches that the calling party can call the system, dial his/her number and then hang up. In this case the system will initiate a call-back to the calling party after which

Serial Number: 08/252,984 2nd

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Art Unit: 2601

a dial tone will be provided to that party to make outgoing calls using the system.

The reference differs from the claims in that in the reference the call is answered while in the claimed invention the call is not answered. While verifying the identity of the calling party, the reference (filed March 1977) utilizes security codes provided by the calling party. However, the claimed invention utilizes information provided by the exchange to identify the originating station (such as DID and ANI).

Billinger et al explicitly teaches the use of ANI to eliminate the need for the customer to dial an authorization code. Using ANI instead of authorization call means that the calling party can be identified without answering the call.

Utilizing the ANI provides advantages such as speed and accuracy because having the calling party manually dial his/her telephone number may cause delay and sometimes the calling party may make a mistake while dialing the number. In general, providing the number automatically is preferred over providing the number manually. Further, the calling party can be identified without having the calling party pay for the call.

Thus, while updating the Kahn et al system to meet the current technological standards as disclosed in Billinger et al, it would have been obvious to utilize the ANI to automatically identify the originating station. Numerous references teach the

Serial Number: 08/252,984 2nd

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Art Unit: 2601

use of ANI and DID/DNIS which are provided by the telephone company in order to provide the desired services to the calling parties.

ANI (Automatic number identification) informs the system of the calling party telephone number. DNIS (dialed number identification service) and DID (direct inward dialing) provide the system with the called number that was dialed by the calling party. *Numerous references*, such as the Srinivasan reference, teach the use of the well known ANI and DNIS/DID in telecommunication services (see references cited below).

In view of the above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the DID/DNIS or the DID/DNIS & the ANI together (note that the invention as claimed and disclosed is not limited to using DID) in order to identify the calling party and decide how to handle the call. According the articles, the system is to be used for international calls which means that foreign countries may not provide the ANI to the U.S. networks, thus, one of ordinary skill in the art would prefer to depend on the number dialed by the calling party (DID/DNIS) in order to identify the calling party in the Kahn system.

As for announcing an invalid call attempt, in the above system each subscriber has a unique DID number, if for example the a calling party dials an unassigned DID number, this of

Serial Number: 08/252,984 2nd

-9-

Art Unit: 2601

course would be considered an invalid call attempt and the designer of the system can choose how to handle such invalid calls, for example, the designer can choose to provide an announcement to the calling party.

Response to Amendment

7. The declaration filed on 11/14/94 under 37 C.F.R. § 1.131 has been considered but is ineffective to overcome IDT machine disclosed Business Week articles and admitted by applicant as Prior Art.

First, applicant admitted (pages 3-4) of the specification that the IDT machine is prior art and thus applicant can not now change the admission of prior art.

Second, according to one of the articles submitted by applicant (The Economist, Sept. 12, 1992, page 79, column 2),

"One of the best known discounters, 2 1/2 year old International Discount Telecommunication (IDT), uses third-country calling to provide calls between countries".

Thus, according to this reference which was submitted by applicant, on Sept. 12, 1992, the IDT machine was 2 1/2 years old. This means that the IDT machine was built and used in the U.S. on or before March 12, 1990.

Art Unit: 2601

Third, the evidence submitted is insufficient to establish a reduction to practice of the invention in this country prior to the date of the IDT reference. It appears from the declaration that the reduction to practice was accomplished on April 2, 1992 which is NOT prior to the date of the IDT reference (Dec. 2, 1991).

8. Applicant's arguments filed 11/14/94, regarding the rejection based on Kahn, Billinger and Srinivasan, have been fully considered but they are not deemed to be persuasive.

Examiner agrees that the Kahn system is different from the claimed invention. The difference is discussed in the 103 rejection which suggest upgrading the Kahn system in view of the teachings of the secondary references.

Applicant states that "although the claimed invention utilizes the DID number, it does not identify the originating station". Examiner respectfully disagrees for claim 1 clearly recites "identifying the originating station" and the specification clearly discloses identifying the originating station.

Examiner agrees that the ANI and DID numbers are not equivalent or interchangeable, however, as discussed in the above rejection, they represent numbers that are utilized by many references in order to improve the handling of incoming calls.

Serial Number: 08/252,984 2nd

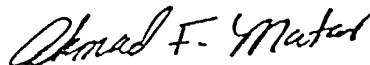
-11-

Art Unit: 2601

Applicant is reminded that Inbound/Outbound Magazine (October 1989 and May 1990) teaches the use of ANI and DNIS/DID in telecommunication systems and that Richardson, Jr. et al (US Patent 5,317,627) teaches the use of DNIS tables in order to provide various application after comparing the incoming DNIS number with prestored DNIS numbers.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Matar whose telephone number is (703) 305-4731.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700. The Group's new FAX number is (703)-305-9508. This FAX number is to be used only for Group 260 papers.



Ahmad F. Matar
Primary Patent Examiner
Group Art Unit 2601

January 12, 1995

11/09/94

16:40

261/2

061

SCHWEGMAN, LUTZ

APPENDIX C

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of James H. Alleman

Filed: June 2, 1994

Serial No.: 08/252,984

Group Art Unit:

Docket: SL&W 162.002US1

Examiner:

Title: INTERACTIVE TELEPHONE SYSTEM FOR OPTIMIZING SERVICE ECONOMY

DECLARATION UNDER 37 CFR § 1.131

Hon. Commissioner of
Patents & Trademarks
Washington, D.C. 20231

Dear Sir:

I, James H. Alleman, am a professor at the University of Colorado at Boulder teaching in the Interdisciplinary Telecommunications Program in the College of Engineering. I am also employed by Paragon Services International, Inc., the assignee of the above-identified patent application.

I am the sole inventor of the subject matter claimed in the above-identified US patent application serial no. 08/252,984, filed June 2, 1994, which is a File Wrapper Continuation of patent application serial no. 07/873,323, filed April 24, 1992.

I am submitting this declaration under 37 CFR § 1.131 to remove certain references from consideration which were cited by the Examiner as detailed below.

I have read and understood the office action mailed August 10, 1994, and the references cited therein and make this declaration in support of the patentability of the claims of the patent application serial no. 08/252,984.

This declaration made under 37 CFR § 1.131 is made in response to the rejections of the claims in the aforesaid office action under 35 USC § 103 based on the *Business Week*

DECLARATION UNDER 37 CFR, SECTION 1.131

Page 2 of 5

Inventor: James H. Alleman

Serial No: 08/252,984

Filed: June 2, 1994

article dated April 13, 1992, entitled "Rome to Bonn via New Jersey" and the *Business Week* article dated December 2, 1991, entitled "How Overseas Callers Can Get State Side Rates".

Prior to December 2, 1991, the date of publication of the *Business Week* article entitled "How Overseas Callers Can Get State Side Rates", I conceived the above-identified and claimed invention. As factual evidence of this, the following facts are entered with supporting documentation.

Prior to December 2, 1991, I began developing and experimenting with a "stand-alone box" which was an early hardware implementation of a call-back system. This early system only allowed a caller to call into a dedicated telephone line and the "stand-alone box" answered the line and connected the caller to a second telephone line. I began testing the "stand-alone box" on or about January 29, 1989 with Mr. Theo Brenner located in Switzerland and with Mr. Fadi Ganhdour who was located in Jordan. Mr. Brenner and Mr. Ganhdour agreed to keep this experimental testing in confidence.

On or about April 29, 1990, design and development of a more advanced and computerized interactive telephone system for optimizing service economy was begun with the hiring of Mr. James Gunther of GTE, an engineer and software developer hired to implement my invention. As evidence of this development, attached hereto and incorporated by reference herein are the following Exhibits:

Exhibit A: Fax letter dated April 29, 1990 to Mr. James Gunther regarding the development effort.

Exhibit B: An Order, Authorization and Certificate from the Federal Communications Commission (FCC) adopted June 6, 1990, and released June 13, 1990, authorizing Paragon Systems International, Inc. to operate as an international resale carrier.

DECLARATION UNDER 37 CFR, SECTION 1.131

Page 3 of 5

Inventor: James H. Alleman

Serial No: 08/252,984

Filed: June 2, 1994

Exhibit C: Letter dated June 27, 1990 to Mr. James Gunther regarding the development and specifications of the "router" portion of the design. This letter includes, as attachments, descriptions of the DID six line support functionality, the router functionality and the software functionality as it existed on that date.

On or about October 15, 1990, discussions began between myself and Call Interactive, a joint venture of AT&T and American Express Information Services Company. Call Interactive had the telephone infrastructure we desired as a platform for implementing the fully-functioning portion of this invention. This was a confidential relationship and Call Interactive was hired as a mere implementor of the present invention. As evidence of this, attached hereto and incorporated by reference herein is Exhibit D, a Confidential Disclosure Agreement between Paragon Services International, Inc. (the predecessor of the present assignee of interest) and myself in my capacity as CEO of Paragon Services International, Inc.

On April 25, 1991, the present invention was placed in public and commercial use using Call Interactive as the hardware and computer platform. See Exhibit E. Within one year of the initial operation of the present invention by Call Interactive, I filed the above identified patent application.

Between the time of initial software development of the computerized interactive telephone system for optimizing service economy by Mr. James Gunther in April of 1990, until the activation of the service provided by Call Interactive on April 25, 1991, some public, experimental use was conducted of the present invention. The present invention required overseas telephone experimentation to test the system functions over long distance international lines. For example, voice quality improvements when bridging international calls, the timing of signals, elimination of false signals to the computer, sizing of the telephone line circuits and the refinement of improper dialing procedures. This experimental

DECLARATION UNDER 37 CFR, SECTION 1.131

Page 4 of 5

Inventor: James H. Alleman

Serial No: 08/252,984

Filed: June 2, 1994

period was termed "beta" testing as shown in the attached Exhibit F and in spite of optimistic predictions of its conclusion, the present invention continued to be non-functional well past the "live" operation date with Call Interactive.

As such, the present invention was not yet reduced to practice until it could be demonstrated to function properly. As evidence of this non-functioning and poor functioning, the following additional exhibits are entered:

Exhibit G: A memorandum from Kent Parkinson of Call Interactive to Tom Thompson and John Killion describing the subscriber file format for the system. The system was not yet fully operational and still required definition at this late date.

Exhibit H: A Letter to Mr. Theo Brunner dated December 16, 1991 indicating Paragon's attempts to correct failures indicated in Mr. Brunner's beta site operation.

Exhibit I: A letter to myself, James Alleman, from Gale Curtright dated April 2, 1992 describing the final functional operation of the hang-up detection circuitry.

Applicants have been diligent in bringing this invention to the attention of the United States Patent Office prior to December 2, 1991, to the filing date of the application on April 24, 1992. As evidence of this diligence, attached hereto and incorporated by reference herein as Exhibit J is a letter from John P. Halloway, the patent officer at the University of Colorado Foundation, Inc., dated March 29, 1991, receiving the disclosure of the present patent application to the University of Colorado Foundation, Inc. Thereafter, patent attorney Earl Hancock prepared and filed the present patent application in a diligent fashion.

It is respectfully submitted that the present patent application claims an invention which was conceived prior to December 2, 1991, with due diligence from prior to December

DECLARATION UNDER 37 CFR, SECTION 1.131

Page 5 of 5

Inventor: James H. Alleman

Serial No: 08/252.984

Filed: June 2, 1994

2, 1991, up to April 24, 1992, the filing date of the parent of the present patent application. Thus the *Business Week* article dated December 2, 1991, and the *Business Week* article dated April 13, 1992 should be removed as references under 35 USC, § 103.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted by

June 9 1994
Dated


James H. Alleman

FAX LETTER

DATE: July 5, 1990
April 29, 1990

PLEASE DELIVER THE FOLLOWING TO: Mr. Jim Gunther

LOCATION: GTE Service Corporation

TEL NO: 214 718 5136

FAX NO: 214 718 4299

TRANSMISSION SENT BY:

NAME: JAMES ALLEMAN

LOCATION: Paragon Services International, Inc.

TEL NO: 402-554-2481

FAX NO: 402-554-3363

COMMENTS:

The following pages are the screens after various attempts at using the router software. The lines represent new attempts. I encounter problems on my home and PSI's lines, but they both have custom calling features, which may have interfered with the signalling. When I went to lines without custom calling the software worked much better, although it had some failures. I have attempted to document them on the print out.

One minor point, in the call back mode, the voice response does not occur for about 6 or 7 seconds. This seems too long -- two to three might be better. On the other hand, when I hit star to terminate a call, I hear the voice response right away. The timing on this is perfect.

I will attempt to connect Jordan after your evaluation of these problems.

Regards,

Jim

COVER PAGE + 3 PAGE(S)
IF ANY PROBLEMS WITH TRANSMISSION, CALL 402 554 2647

EXHIBIT

A

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

PARAGON SYSTEMS
INTERNATIONAL, INC.

File No. I-T-C-90-074

Application for authority to operate
as an international resale carrier.

ORDER, AUTHORIZATION AND CERTIFICATE

Adopted: June 6, 1990;

Released: June 13, 1990

By the Chief, International Facilities Division

1. The above-captioned application, filed on March 13, 1990 by Paragon Systems International, Inc. (PSI), requests authority pursuant to Section 214 of the Communications Act of 1934, as amended, to resell the switched message telephone services of existing common carriers to provide international switched voice service between the U.S. and various overseas points. The application was placed on public notice on March 21, 1990. No comments were received.

2. The applicant is a start-up company which proposes to resell international switched voice services in competition with other common carriers already providing resale of such services. PSI has filed information required by Section 63.01 of the Commission's Rules. In authorizations of new entrants over the past decade, the Commission has recognized that increased competition in international markets is beneficial.¹ We find that the market will support additional carriers and that the added competition will be in the public interest.²

3. For the foregoing reasons, IT IS CERTIFIED that the present and future public convenience and necessity require the provision of international switched voice services to the general public by PSI.

4. Accordingly, IT IS ORDERED that application File No. I-T-C-90-074, IS GRANTED, and PSI is authorized to provide international switched voice services by the resale of the international switched voice services set forth in AT&T's Tariff F.C.C. No. 1 and 2, MCI's Tariff F.C.C. No. 1, US Sprint's Tariffs F.C.C. Nos. 1 and 2 and Allnet's Tariff F.C.C. No. 1, between the United States and the points listed in those tariffs.

5. Copies of any operating agreements entered into between the applicant and its correspondents shall be filed with the Commission within 30 days of their execution.

6. IT IS FURTHER ORDERED that the applicant shall file a tariff pursuant to Section 203 of the Communications Act, 47 U.S.C. Section 203, and Part 61 of the Commission's Rules, 47 C.F.R. Part 61, for the services authorized in this Order.

7. IT IS FURTHER ORDERED that the applicant shall file the annual reports of overseas telecommunications traffic required by Section 43.61 of the Commission's Rules, 47 C.F.R. §43.61 (October 1, 1989).

8. This order is issued under Section 0.291 of the Commission's Rules and is effective upon release. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's Rules may be filed within 30 days of public notice of this order (see Section 1.4(b)(2)).

FEDERAL COMMUNICATIONS COMMISSION

George S. Li
Chief, International Facilities Division
Common Carrier Bureau

FOOTNOTES

¹ See, e.g., the cases cited in the Teltec Saving Communications Co., File No. I-T-C-86-062, Mimeo No. 3548, (released April 4, 1986) at n.2.

² FCC v. RCA Communications, Inc., 346 U.S. 86 (1953); Mackay Radio and Telegraph Co., 28 FCC 231 (1960).

EXHIBIT

B



PARAGON SERVICES INTERNATIONAL, INC.
405 SOUTH SIXTEENTH STREET • SUITE 1401 • OMAHA, NE 68102
+1 402 345-0181

June 27, 1990

Jim Gunther
GTE
4500 Fuller Drive, F03A25
Irving, Texas 75015-2092


Dear Jim,

The attached note gives more specifications on "the router" and the functionality it should have. Thus far, it seems to work fine on calling back and on the cross connect. The release of the second line, however, is sometimes a problem. It may only be on the two lines I am using, which have custom calling features. I will continue to monitor this on outside calls. I think there is a function that allows the system to hang up.

In addition, I am enclosing my versions of PKARC and PKXARC and Procom, although your system seems to handle the transfer quite adequately. We now need to move forward on the DID software. I have written this up as a separate section.

Things are moving forward quickly.

Warm regards,


Jim

JA/gh

Attachments

P.S. I've also included an earlier software write-up. Most of this seems to be in your program already.

✓ disk was sent

EXHIBIT

C

DID's 6 line support Functionality

The DID software should initially support 1 DID trunk, terminating in one of the D4x boards. Twenty (20) to one-hundred (100) Did numbers should be handled.

Then, the phone list (phone.lst) would provide the support for this number of DID's. Initially, PSI will have six (6) lines in service, outgoing. (They are 342-5206, 341-0198, 345-0294, 342-5228, 341-0173 and 345-0181). The last two numbers are the last ones the program should call--they are the ones I use at home.

This will allow the test of the system with several customers and estimate the need for T1 carriers and get a better sense of the demands on the system.

The Router Functionality

In addition to the call back and connection features, the router should have a variety of functionalities that the software currently does not provide.

- 1) Automatic redial on the first call if a failure occurs. The 3rd or 4th attempt should be on an ATT override, i.e. 10288 followed by the appropriate digits.
- 2) Pressing the star twice (**) should disconnect the current call and allow the user to make another call. (This avoids an accidental disconnect.)
- 3) A voice warning to the user that too many or too few digits have been dialed or if a time-out occurs.
- 4) A warning to the user that the time-out is about to occur and will terminate the call. The user could start over by pressing star twice (**).
- 5) The search to find the first open pair to return calls (Is this functionality already there?).

More items can be added to this list, but these are the priorities.

Long Term Considerations

Proposed Additional Functionality of the Router Software and Hardware.

In addition, the Router software and hardware should be capable of handling fax services, providing electronic mail boxes and storing forward mail boxes and Telex services via the PSI network. This would be quite useful to individuals here in different time zones.

6-27-90

Software Functionality

1. Recognize the existence of an incoming call to a specific line or DID number.
2. Determine if it rings more than one time. If so, begin the initiation of a call to the identified caller.
3. If the call rings longer than five (5) rings, terminate the call initiated in 2, above.
4. Determine if the call initiated in 2 above is ringing at the destination, trunk busy or "cannot call at this time."
5. Re-initiate the call if it is not ringing at the destination and continue to re-initiate the call until it rings at the destination (i.e. repeat 4) or until fifteen minutes has passed.
6. Listen for an answer to the call. Upon detection of answer, give voice response "Please dial now and terminate with *."
7. Listen for digits dialed and *. Have a time-out function if no digits are dialed in two (2) minutes or no activity on line.
8. Listen for action on line and **.
9. Upon detection of ** sign, offer voice response to initiate the next call.
10. Repeat 7, 8, and 9 until on hook or ** sign is detected. (Time-out function of 7 is fall back.)
11. If on line detected, hand up and prepare for next calls.
12. Match caller (on first line) and calls on second line i.e. callers I.D., time of day, date, the number(s) called, and minutes called.
13. Off load data captured in 12 at specified intervals: use one (1) hour initially.

CALL INTERACTIVE

A joint venture of American Express Information Services Corporation and AT&T.

HEADQUARTERS OFFICE:
2301 North 117th Avenue
Omaha, NE 68164
Tel: (402) 498-7000 Fax: (402) 498-7900

Schwegman, Lundberg &
Woessner, P.A.

October 15, 1990

SEP 06 1994

RECEIVED

Mr. James Alleman
Acting CEO
Paragon Services International, Inc.
405 South 16th Street, Suite 1401
Omaha, NE 68102-2614

Dear Jim:

In connection with a prospective business relationship between Call Interactive and Paragon, our discussions will involve information which Call Interactive or Paragon considers confidential, proprietary and/or sensitive ("CONFIDENTIAL INFORMATION").

Each of Call Interactive and Paragon agrees to keep confidential and to use solely for purposes of these discussion and related presentation material of October 15, 1990, any Confidential Information provided to it by the other (the "Providing Party") in connection with these discussions including PSI's Business Plan, slides and related material used in PSI's presentation of October 15, 1990. As used herein, "Confidential Information" shall mean any non-public, confidential proprietary information provided by the Providing Party to the other (the "Receiving Party") relating to this Agreement, the services to be rendered hereunder or the transactions contemplated hereby, including without limitation, pricing and material terms and conditions of these discussions and any Supplement, intellectual property, enabling software, programming and the computer based interactive system developed by Call Interactive (the "System"), except that Confidential Information does not include any information that:

- (i) is required by law to be disclosed:
- (ii) that is provided orally, unless prior to the communication of such information, the Receiving Party is advised that it is non-public, proprietary and confidential and has agreed to accept such information, and within 30 days after the day on which first communicated it is designated as Confidential Information in writing by the Providing party (and the parties agree in writing that such writing accurately represents the previous oral disclosure):
- (iii) was available to the Receiving Party, or its directors, agents, employees or representative, prior to its disclosure to the Receiving Party by the Providing Party:



AT&T

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INFORMATION
SERVICES



EXHIBIT

D

- (iv) was known or becomes generally available to the public or to competitors of the parties hereto other than as a result of disclosure by the Receiving Party:
- (v) becomes available to the Receiving Party, or its directors, agents, employees or representatives, from a source other than the Providing Party or its representatives which source was not subject to any non-disclosure obligations to the providing Party with respect to such information:
- (vi) was independently developed (and substantiated in writing as such) by the Receiving Party.

Subject to (ii) above, any Confidential Information furnished by the Providing Party must be in written and/or other tangible form, will be identified to the Receiving Party at the time of its disclosure and will be clearly marked with a legend which indicates its confidential and proprietary nature. Each of the parties hereto agrees that the Confidential Information will not be used by it in any way other than in connection with these discussions, and that Confidential Information will be kept confidential by such party and its employees and authorized representatives (to whom such Confidential Information may be disclosed only on a need-to-know basis), and shall not, except as hereinafter provided, be disclosed by such party or its directors, agents, employees or representative without the written consent of the other party. Each of Call Interactive and Paragon agrees that Confidential Information may be disclosed without the written consent of the other party on a need-to-know basis but confidential to the common carrier or billing series is replaced by "services" provider in connection with the approvals required by the them in connection with a program of Paragon.

In the event that Paragon Call or Interactive is requested or required by government compulsion (by oral questions, interrogatories, requests for information or document, subpoena, civil investigative demand or similar process) to disclose any Confidential Information, such party agrees to provide prompt notice to the providing party so that the Providing Party may seek a protective order to take other appropriate action. It is further agreed that in, in the absence of a protective order or the receipt of a waiver hereunder, the Receiving party is nonetheless, in the opinion of its counsel, compelled to disclose the Confidential Information to any tribunal or in any proceeding or else stand liable for contempt or suffer other censure or penalty, the Receiving party may disclose such Confidential Information to such tribunal or in such proceeding without liability hereunder but will take all step to assist the providing Party in obtaining confidential treatment thereof.

All Confidential Information shall remain the property of the Providing Party and not be used by the receiving party in any manner what so ever without prior written consent of the providing party. Confidential information shall be returned to the Providing Party upon its request or upon the Receiving Party's determination that it no longer has a need for such Confidential Information.

Each of Call Interactive and Paragon agrees that if there is a breach of threatened breafch of this Agreement, money damages would not be sufficient remedy, and that the providing party shall be entitled to appropriate injunctive or other equitable relief as a remedy for any such breach or threatened breach.

Nothing herein shall be construed as prohibiting the Providing Party from pursuing any other remedies for such breach or threatened breach.

This agreement shall be governed by the laws of the State of New York, without regard to conflicts of laws principles.

This agreement may only be amended in writing by both parties.

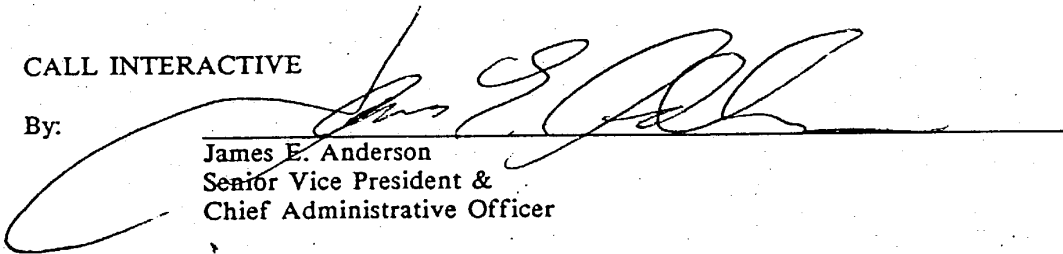
Please acknowledge your agreement with the foregoing by signing a copy of this letter in the space provided and returning it to the undersigned.

We look forward to working with you toward a mutually beneficial relationship.

Very truly yours,

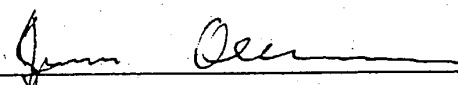
CALL INTERACTIVE

By:


James E. Anderson
Senior Vice President &
Chief Administrative Officer

Accepted and Agreed to:

By:


James Allenman
Acting CEO

CII

CALL INTERACTIVE

A joint venture of American Express Information Services Corporation and AT&T.

HEADQUARTERS OFFICE:

2301 North 117th Avenue
Omaha, NE 68164

Tel: (402) 498-7000 Fax: (402) 498-7900

March 6, 1991

James E. Anderson
Senior Vice President and
Chief Administrative Officer

Jim Alleman
Paragon Services
International, Inc.
405 South 16th., Suite 1401
Omaha, NE 68102-2614


Dear Jim:

We are very pleased that negotiations have been successfully completed between our two companies. We look forward to a long and rewarding relationship.

Our technical team is moving ahead full speed with the development of the service and we appear to be on schedule for our turn-up on April 25, 1991.

Again, welcome to Call Interactive.

Sincerely,


James E. Anderson
Sr. Vice President/
Chief Administrative Officer

JEA/jh



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SERVICES



EXHIBIT

E

Paragon Services International, Inc.
405 South 16th., Suite 1401
Omaha, NE 68102-2614
USA

PRESS RELEASE

FOR IMMEDIATE RELEASE

January 10, 1991

**PARAGON SERVICES INTERNATIONAL UPGRADES TO NEW SYSTEM FOR
DISCOUNTED INTERNATIONAL VOICE TELEPHONY SERVICE**

Paragon Services International, Inc. has developed and implemented a new system to supply discounted international voice telephony service.

Paragon Services International, Inc. is engaged in the resale of telephone service, principally to international points, and has developed the hardware and software driven "proprietary router" which allows for the resale of international telephone service at rates twenty to fifty percent below standard international tariff charges.

Dr. James Alleman, Chairman of Paragon Services International, Inc., stated, "While our international customers currently enjoy the best international voice telephone rates in their respective countries, the new system will significantly improve the quality, reliability and speed of connection for PSI's customers."

The system has been in "beta" testing since October 1990 and is now fully operational. In addition to the discounted international voice traffic, PSI offers detailed billing and other enhancements not usually available from foreign national providers. PSI rates for service in Greece, shown on the overleaf, are illustrative of the savings once can achieve with this service. Equivalent savings can be realized in many other markets as well.

For additional information contact:

Gloria Patchen-Houstoun or Michael Shonka
Paragon Services International, Inc. at 402 345 0181

pr_0

EXHIBIT

F

Jim Alliman
MEMORANDUM

March 27, 1991

Important FAX
(7)

To: Tom Thompson
John Killion

cc: Vince Marco

From: Kent Parkison

Subject: Subscriber Floppy Disk File

The following is a description of the subscriber file we will be using in building the Paragon data base. I have listed the limitations of the current system so everyone will have an understanding of what is required for input.

Subscriber File Layout

DID <sub name> Country Code Phone # (client id) <start> <stop> (PIN) (DEMO) (SPARE)

Information not delimited by a <> or a {} is required information. Information contained in <> will not be used by the ARU software and will be stripped out. Information contained in {} is optionally included. Note the placement of information inside commas this is important.

Other Data Checks

The following are additional data checks that will be made on the lengths of fields in the Subscriber file.

| | |
|--------------|---|
| DID | Must be four characters. |
| Country Code | Must be between one to four characters. |
| Phone # | This field plus the Country Code must be less than or equal to thirty characters. |
| | <u>NOTE: For domestic calls this should include the area code.</u> |
| Client Id | If present must be less than six characters. |
| PIN | If present must be five characters. |
| DEMO | If present must be single "n" or "y" character. |
| SPARE | Future use. |

Call Interactive - Proprietary and Confidential

EXHIBIT

G



Paragon Services International, Inc.

December 16, 1991

Mr. Theo E. Brenner, President
Franklin College Switzerland
Via Ponte Tresa 29
6924 Sorengo (Lugano)
Switzerland

Dear Theo:

This is a belated response to your November 20, 1991 facsimile to Jim Alleman.

We certainly appreciate your payments on account.

Enclosed are October PSI invoices including post-facto corrections which make our rates competitive with the Swiss PTT rates to the USA. In addition these new rates were used to re-calculate your office and home calls for the period April 25th through September 30th and provided a credit adjustment.


We feel the revised rates are directly competitive with the AT&T USA Direct tariff. AT&T's printed rate is \$1.87 (USA \$) for the initial minute and \$1.09 for each additional minute plus a \$2.50 Service Charge to each Calling Card billed call. Using the PSI network an example rate for a five (5) minute, Switzerland-to-USA call, at your 1pm-7pm time, will now cost only an average of \$1.20 (USA \$) per minute...a savings of over 20% versus the PTT rate. Similarly, an example PSI five (5) minute call at your 7pm-Midnight time will average \$1.08 per minute (still a savings over the PTT charges).

It has taken until Monday of this week to track the "trouble" incident you experienced from your home the evening of November 21st. Our service vendor finally reported their records do indicate the "attempts" you made to activate a callback to your number. Unfortunately it seems there was an "all AT&T circuits busy" condition each time you tried the service during approximately a one hour period. Everything was dialed correctly, merely a circuit busy condition over which we have no control.

We are always concerned about call progress difficulties. As a suggestion, if you incur any trouble condition, please do not hesitate to dial our 24-hour, PSI Trouble Reporting Number, 1-402-498-7700. Often the trouble desk is able to immediately take action to trace the difficulty and provide a remedy.

Happy Holidays!

Sincerely,


Gale H. Curtright
Director of Operations
402-476-6885

EXHIBIT

H

Enclosures:

Paragon Services International, Inc. - Lincoln Operations Office - 1701 South 17th Street, Lincoln, Nebraska 68502 - USA



Paragon Services International, Inc.

FACSIMILE CORRESPONDENCE - 303-442-9125

April 2, 1992

Mr. Jim Alleman, CEO
Paragon Services International, Inc.
4840 Riverbend Road, Suite 4
Boulder, Colorado 80301

Dear Jim:

The Prairie Systems PSI Callback US System is operational.

There are three (3) important changes to the dialing instructions. They are:

- 1) Each account now has a **NEW** Personal Access Number:

| <u>Old Access Number</u> | <u>Account Name</u> | <u>NEW ACCESS NUMBER</u> | <u>CallBack Number</u> |
|--------------------------|---------------------|--------------------------|------------------------|
| 4100 | Jim Alleman PSI Ofc | 402-398-4380 | 303-443-4250 |
| 4147 | Barbara Miller Ofc | 402-398-4382 | 202-647-0597 |

2) When you call your "Personal Access Number" you will hear a continuous tone (instead of ringing). When you hear the tone, hang up the receiver and wait for the callback.

3) After connection to the PSI network, to call within the USA it is necessary to dial "01" before the Area Code and Telephone Number.


Enclosed is a page of "Revised Dialing Instructions". Because we are now served by improved switching equipment, it is no longer necessary to terminate a call by pressing the star button twice (* *). We have full network supervision to detect proper hang-up.

At this time Prairie Systems is unable to provide a Travel Call/Demo number process to allow the user to enter the current telephone number for callback. Thompson indicates he can work this in later on. It maybe they haven't even got this feature for the competition - or - are concerned we would want to operate this feature in the USA on an 800# which might stress their contract with others.

Remember the abbreviated cost for a USA-to-USA domestic call (via callback) is approximately \$0.12 for the front haul, plus CPU and backhaul minutes @ \$0.225 first minute and \$0.32 each additional minute. Thus (after the first minute) PSI's costs are at least \$0.44 each additional minute. O.K. for demos...poor for domestic calling.

Will you please advise Barbara about her Access Number.

Sincerely,


Gale Curtright
Director of Operations

Enclosure: (1)

EXHIBIT

I

 University of Colorado Foundation, Inc.

Foundation Center
1205 University Avenue
PO Box 1145
Boulder, Colorado 80306
(303) 440-1145

March 29, 1991

Dr. James Alleman
Paragon Services International, Inc. (PSI, Inc.)
405 S. 16th St., Suite 1401
Omaha, NE 68102

RE: System for Telecommunication Marketing

Dear Jim:

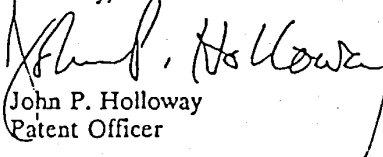
This will verify our conversations on March 21 concerning the protection and licensing of the above referenced invention disclosure which you discovered and reduced to practice on your own time and through the efforts of PSI, Inc., a company basically owned by you.

You have advised that you will join the University as a member of its faculty in August as an Associate Professor in the Interdisciplinary Telecommunications program where you anticipate further work will be done on your discovery. You would like the University and your department to participate in the fruits of commercial exploitation, but believe that the existing royalty sharing formula would not be entirely fair to you because of your earlier inventorship and development.

I agree and upon your formal disclosure of the invention to me, I would be willing to seek protection and licensing at Foundation expense. If it is commercially exploited, I would seek to fully reimburse the Foundation for its out-of-pocket patenting and licensing expenses, and I would distribute the remainder 50% to PSI, Inc. with the other 50% being divided in thirds between your research account, your department, and the remaining one-third to the Foundation/University.

If this meets with your approval please signify below and return this letter to me, retaining a copy for your file. The disclosure form which I gave you should be sent to me but please feel at liberty to communicate directly with Earl C. Hancock, Esq., who the Foundation will retain in this matter.

Sincerely,


John P. Holloway
Patent Officer

I accept and approve of this distribution specified above.

PARAGON SERVICES
INTERNATIONAL, INC.

By: 

James Alleman, Ph.D.
for the company and on behalf of himself

JPH/pmb

cc: Earl C. Hancock, Esq.

EXHIBIT

1

Claims

18. A system for establishing a telephone communication link between a subscriber telephone station and a destination telephone station, both being connected through a telephone exchange, comprising:

control means operable for managing a database of caller information;

storage means connected to the control means and operable for storing the database of caller information including a preassigned direct inward dial telephone number associated with a subscriber and a subscriber telephone number associated with the subscriber telephone station;

first telephone connection means connected to the control means and operable for connecting through a trunk line to the telephone exchange and for receiving an incoming direct inward dial telephone number on the trunk line from the telephone exchange as part of an incoming call attempt from the subscriber telephone station, the incoming direct inward dial telephone number indicating the number called by the subscriber;

second telephone connection means connected to the control means and operable for dialing out through the telephone exchange;

the control means further operable for comparing the incoming direct inward dial telephone number to the preassigned direct inward dial telephone number and, if the incoming direct inward dial telephone number matches the preassigned direct inward dial telephone number associated with the subscriber, the control means is further operable for:

calling the subscriber remote telephone number through the first telephone connection means after the subscriber terminates the incoming call attempt and connecting to the subscriber telephone station;

receiving from the subscriber a calling telephone number for the destination station;

calling the calling telephone number through the second telephone connection means; and for

CLAIMS

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James H. Alleman

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bridging the first telephone connection means to the second telephone connection means so that the subscriber is connected to the destination.

19. The system according to claim 18 wherein the control means is further operable for indicating an invalid call attempt if the incoming call attempt does not terminate within a predetermined period of time.

20. The system according to claim 19 wherein the control means is further operable for answering the incoming call attempt in response to the invalid call attempt and for presenting an audio message onto the first telephone connection means in response to the invalid call attempt.

21. The system according to claim 18 wherein the control means is further operable for indicating an invalid call attempt if the incoming direct inward dial telephone number does not match the preassigned direct inward dial telephone number associated with the subscriber.

22. The system according to claim 21 wherein the control means is further operable for answering the incoming call attempt and for presenting an audio message onto the first telephone connection means in response to the invalid call attempt.

23. A method establishing a telephone communication link between a subscriber telephone station and a destination telephone station, both being connected through a telephone exchange, comprising the steps of:

storing a preassigned direct inward dial telephone number associated with a subscriber;

CLAIMS

James H. Alleman

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Page 3

storing a subscriber remote telephone number associated with the subscriber telephone station;

receiving an incoming direct inward dial telephone number from a first telephone exchange connection as part of an incoming call attempt from the subscriber telephone station;

comparing the incoming direct inward dial telephone number to the preassigned direct inward dial telephone number and if the incoming direct inward dial telephone number matches the preassigned direct inward dial telephone number associated with the subscriber, performing the following steps:

calling the subscriber remote telephone number after the subscriber terminates the call attempt and connecting to the subscriber telephone station;

receiving from the subscriber a calling telephone number for the destination station;

calling the calling telephone number through a second telephone exchange connection; and

bridging the first telephone exchange connection to the second telephone exchange connection so that the subscriber is connected to the destination.

24. The method according to claim 23 further comprising the steps of comparing the incoming direct inward dial telephone number to the preassigned direct inward dial telephone number and if the incoming direct inward dial telephone number does not match the preassigned direct inward dial telephone number associated with the subscriber, terminating the incoming call attempt.

25. The method according to claim 23 further comprising the steps of comparing the incoming direct inward dial telephone number to the preassigned direct inward dial

CLAIMS

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telephone number and if the incoming direct inward dial telephone number does not match the preassigned direct inward dial telephone number associated with the subscriber, answering the incoming call attempt and playing a prerecorded message.

26. The method according to claim 23 further comprising the steps of timing the incoming call attempt and indicating an invalid call attempt if the incoming call attempt does not terminate within a predetermined period of time.

27. The method according to claim 26 further comprising the steps of answering the incoming call attempt and playing a prerecorded message in response to the invalid call attempt.

S/N 08/252,984

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: James H. Alleman

Filed: June 2, 1994

Serial No.: 08/252,984

Group Art Unit: 2601

Docket: SLW 162.002US1

Examiner: A. Matar

Title: INTERACTIVE TELEPHONE SYSTEM FOR OPTIMIZING SERVICE ECONOMY

AMENDMENT AND RESPONSE

Hon. Commissioner of
Patents & Trademarks
Washington, D.C. 20231

Dear Sir:

In response to the Office Action mailed August 10, 1994, please admit the following remarks in response to the rejections without amendment to the claims.

In the Claims

Please amend claims 18, 19, 21, 23-25 as follows:

18. [Once Amended] A system for establishing a telephone communication link between a subscriber telephone station and a destination telephone station, both being connected through a telephone exchange, comprising:

control means operable for managing a database of caller information [including a caller response unit];

storage means connected to the control means and operable for storing the database of caller information including a preassigned [a local] direct inward dial telephone number

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associated with a subscriber and [for storing] a subscriber [remote] telephone number associated with the subscriber telephone station;

first telephone connection means connected to the control means and operable for connecting [to a] through a trunk line to the telephone exchange and for receiving an incoming direct inward dial telephone number on the trunk line from the telephone exchange as part of an incoming call attempt from the subscriber telephone station, the incoming direct inward dial telephone number indicating the number called by the subscriber;

second telephone connection means connected to the control means and operable for dialing out through the telephone exchange;

the control means further operable for comparing the incoming direct inward dial telephone number to the preassigned [local] direct inward dial telephone number and, if the incoming direct inward dial telephone number matches the preassigned [local] direct inward dial telephone number associated with the subscriber, the control means is further operable for:

calling the subscriber remote telephone number through the first telephone connection means after the subscriber terminates the incoming call attempt and connecting to the subscriber telephone station;

receiving from the subscriber a calling telephone number for the destination station;

calling the calling telephone number through the second telephone connection means; and for

bridging the first telephone connection means to the second telephone connection means so that the subscriber is connected to the destination.

19. [Once Amended] The system according to claim 18 wherein the control means is further operable for indicating an invalid call attempt if the incoming call attempt does not terminate within a [the] predetermined period of time.

21. [Once Amended] The system according to claim 18 wherein the control means is further operable for indicating an invalid call attempt if the incoming direct inward dial telephone number does not match the preassigned [local] direct inward dial telephone number associated with the subscriber.

23. [Once Amended] A method establishing a telephone communication link between a subscriber telephone station and a destination telephone station, both being connected through a telephone exchange, comprising the steps of:

storing a preassigned [local] direct inward dial telephone number associated with a subscriber;

James H. Alleman
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Filed: June 2, 1994

storing a subscriber remote telephone number associated with the subscriber telephone station;

receiving an incoming direct inward dial telephone number from a first telephone exchange connection as part of an incoming call attempt from the subscriber telephone station;

comparing the incoming direct inward dial telephone number to the preassigned [local] direct inward dial telephone number and if the incoming direct inward dial telephone number matches the preassigned [local] direct inward dial telephone number associated with the subscriber, performing the following steps:

calling the subscriber remote telephone number after the subscriber terminates the call attempt and connecting to the subscriber telephone station;

receiving from the subscriber a calling telephone number for the destination station;

calling the calling telephone number through a second telephone exchange connection; and

bridging the first telephone exchange connection to the second telephone exchange connection so that the subscriber is connected to the destination.

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24. [Once Amended] The method according to claim 23 further comprising the steps of comparing the incoming direct inward dial telephone number to the preassigned [local] direct inward dial telephone number and if the incoming direct inward dial telephone number does not match the preassigned [local] direct inward dial telephone number associated with the subscriber, terminating the incoming call attempt.

25. [Once Amended] The method according to claim 23 further comprising the steps of comparing the incoming direct inward dial telephone number to the preassigned [local] direct inward dial telephone number and if the incoming direct inward dial telephone number does not match the preassigned [local] direct inward dial telephone number associated with the subscriber, answering the incoming call attempt and playing a prerecorded message.

REMARKS

In response to the Office Action mailed August 10, 1994, claims 18, 19, 21, 23-25 have been amended. Applicant offers the following remarks in support of the amendments and in response to the Examiner's remarks.

Examiner Interview Summary

Applicant had requested a Telephone Interview preliminary to the issuance first office action to discuss the case with the Examiner. The intent of an Interview Preliminary to

James H. Alleman
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the first office action was to clear up any minor problems in the case in an efficient manner and to accelerate ex parte prosecution.

Applicant thanks Examiner Matar for the courtesy of calling the undersigned attorney and granting the telephone interview on August 3, 1994. Examiner Matar called Applicant's attorney before reviewing the new claims and stated there was nothing new to discuss and therefore a telephone interview was unnecessary. Applicant's attorney requested that Examiner Matar call him after reviewing the new claims if there were any issues that could be resolved by telephone before issuance of the first office action.

Rejection of the Claims Under 35 U.S.C. § 112

Claims 18 through 27 were rejected by the Examiner under 35 U.S.C. § 112 second paragraph, for being indefinite. The Examiner raised questions about the order of operation of some of the functions of the apparatus claims and the steps of the method claims. Applicant has added clarifying language throughout the claims to clarify the operation of the claims invention. Applicant respectfully requests reconsideration of the rejected claims, removal of the rejections and allowance of all claims.

Removal of the Business Week Article from Consideration

Claims 1 and 18-27 were rejected under 35 USC §103 as being unpatentable over the IDT machine disclosed in *Business Week* articles and a portion of the applicants own

specification. Applicant respectfully submits the attached Declaration of James H. Alleman, inventor of the present invention to which this patent application applies, swearing behind the Business Week articles.

Since the *Business Week* Articles are not prior art to the present claimed invention, the rejection of claims 1 and 18-27 under 35 U.S.C. § 103 fails. Applicant respectfully requests reconsideration of the rejected claims, removal of the rejections and allowance of all claims.

REJECTION OF THE CLAIMS UNDER 35 USC §103

Claims 1 and 18-27 were rejected under 35 USC §103 as being unpatentable over Kahn et al. (US Patent No. 4,086,438) in view of Billinger et al. (US Patent No. 4,769,834) and in further view of Srinivasan (US Patent No. 5,185,782).

Applicant respectfully points out that the present invention is quite different from the Kahn et al. patent. The present invention as claimed does not use stored security codes. Identification of the user is based upon which DID number was dialed and which DID number is sent along the trunk line. Also, the present invention does not answer the call but expects the subscriber to hang up (call attempt) so no connection charges are incurred.

On page 6, first full paragraph, of the Office action, the Examiner described the differences between the present invention and the Kahn et al. patent. The Examiner stated that "the claimed invention utilizes information provided by the exchange to identify the

James H. Alleman
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originating station (such as DID and ANI)." After this characterization the Examiner combines the Billinger et al. patent and the Srinivasan patents with the Kahn et al patent to show the invention to be obvious. Applicant respectfully points out that this characterization of the present invention is incorrect and hence the combination of references is incorrect.

The present invention receives a direct inward dial (DID) number from the telephone exchange on a trunk line. The DID number identifies the number which was dialed by the subscriber. The present invention uses the control means (a processor) to look up the DID number in a database to determine who is making the call attempt. The subscriber can call the claimed invention from any telephone, but the system will only call back to the subscribers telephone number from the database. Thus, although the claimed invention utilizes the DID number, it does not identify the originating station. It uses the DID numbers to determine the subscriber.

Applicant also respectfully points out that the DID and ANI systems are not equivalent and interchangeable. Contrary to the Examiner's assertion on page 7 of the office action, applicant's claims in this patent application are limited to DID numbers. Applicant is not claiming ANI systems and the claims do not cover the use of ANI. Applicant respectfully reserves the right to claim the use of ANI at a later time. ANI numbers do identify the caller, but DID numbers only identify the telephone number of the called number on a trunk line.

AMENDMENT AND RESPONSE

James H. Alleman
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Filed: June 2, 1994

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CONCLUSION

Applicant respectfully requests that removal of all rejections of the pending claims and allowance of all claims be granted.

Respectfully submitted,

James Harry Alleman

By his attorney,

SCHWEGMAN, LUNDBERG
& WOESSNER, P.A.
3500 IDS Center
80 South Eighth Street
Minneapolis, MN 55402
(612) 373-6904

Date Nov. 10, 1994

By

Daniel J. Kluth
Daniel J. Kluth
Reg. No. 32,146

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on November 10, 1994.

Nov. 10, 1994
Date

Daniel J. Kluth
Daniel J. Kluth

Exhibit E1

L116 ANSWER 14 OF 16 ABI/INFORM COPYRIGHT 1995 UMI

AN 95:59121 ABI-INFORM
DN 01005519; 96-54912
TI You can't beat the price
AU Scheele, Michael J
SO Telephony, (20 Mar 1995) Vol. 228, No. 12, pp. 65-72. Journal code:
TPH. Features: Charts; Graphs; Diagrams. Availability: Fulltext
online. Photocopy available from ABI/INFORM 1108.00
CODEN: TLPNAS; ISSN: 0040-2656.
DT Journal
LA English
WC 02131
AB The ***international*** ***callback*** market is one of the
fastest growing, least understood telephony markets in the world.
Although the market will soon pass the half billion-dollar
threshold, many telecommunications professionals remain pessimistic
about the future of callback. Callback providers will continue to
gain market share by increasing distribution geographically. They
are also modifying their products according to the prevailing market
conditions. More importantly, providers are beginning to use
technologies that make it easier for customers to use their
services. According to a survey of callback providers, fax callback
services are becoming increasingly popular. Also, callback providers
are creating features to differentiate themselves, such as automated
account balances, personalized voice prompts, number portability,
speed dialing, voice mail, and conference calling. More than 75% of
the carriers surveyed are planning to implement some form of X.25
switching in their networks in 1995.

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TX The ***international*** ***call*** - ***back*** market is
one of the fastest growing, least understood telephony markets in
the world. Although the market will soon pass the half
billion-dollar threshold, many telecommunications professionals

remain pessimistic about the future of callback.

Let's dispel some of the myths about callback providers and take an objective look at this market. We will examine the size and scope of the callback market, and use historical marketing data to forecast the future of callback. We will also look at the technologies, products and features that providers are using today and will be using in the future.

Market Dimensions

The callback market was developed in the United States in the late 1980s. Figure 1 shows total callback revenues calculated via all access methods-- (**direct** **inward** **dialing**
(**DID**), International 800 and X.25. (Figure 1 omitted) It also encompasses the broadest definition of callback products--standard **DID** callback, travel cards and debit cards. All these products share a common denominator: international call completion with U.S. dial tone.

Why the sudden takeoff of revenues in 1994? The answer is as basic as Economics 101. When a specific market segment is yielding above-average profits, the resulting economic profit will attract new competitors.

In 1990, the number of carriers providing callback service was less than six; by 1994 the number had increased to between 50 and 60 facilities-based U.S. firms. This fact should not come as a surprise since the average gross margin of an international switched minute is five to 10 times greater than a domestic switched minute. The firms listed on page 66 account for more than 80% of the callback market.

The **international** **callback** marketplace is beginning a technology transformation that will increase worldwide revenues to more than \$1 billion within five years.

The rationale is simple. The first corporations (early adopters) to use U.S. dial tone via callback facilities **did** so because of simple economics. Today, quite a few businesses worldwide are willing to put up with the inconvenience--the callback--and the occasional quality shortfall because of the tremendous savings involved.

This scenario is identical to that of the U.S. interexchange market in the early 1980s. Before equal access was implemented throughout the United States, competitive interexchange products from carriers

such as MCI and GTE Sprint (now known simply as Sprint) used Feature Group A and B circuits. These types of circuits forced users to first dial a local 10-digit access number and then a 14- to 17-digit code. When this process was complete, a user could dial the destination phone number.

It was a mess. In the early 1980s, however, end users were willing to dial the extra digits. After completing the maze of different access numbers and personal identification numbers, early adopters were rewarded with savings of almost 50% over the rates charged by PTTs--strikingly similar to the ***international***
callback market in 1995.

The quality of the call was below average even by early 1980s standards because the feature groups lacked answer supervision. Back then it was common to have calls billed that were never completed. It is remarkable that customers put up with the extra dialing and occasional quality and billing problems.

From a 1995 vantage point, it seems almost impossible that users were willing to do these things; in 1983, however, it was the only way to obtain competitive services. They ***did*** do it, and the reason is obvious: savings.

Why Bother?

A quick review of the U.S. competitive interexchange market of the 1980s reveals the direction the callback market will be taking in the next few years. The parameters, company characteristics and market conditions of these two environments are almost identical. Table 1 compares AT&T in the early 1980s with the PTTs of today. (Table 1 omitted) Table 2 contrasts other common carriers of the 1980s with callback providers today. (Table 2 omitted)

Being the incumbent monopoly or near-monopoly provider of service is an enviable position, but it leads to a monopolistic approach to marketing. It is characterized by providing products that are developed, priced and introduced into the market without competition in mind.

These providers have entrenched corporate cultures that go back decades. Of course, keeping the revenue bucket from leaking is a tough proposition with hungry upstart competitors looking for any regulatory or technology loophole to enter the marketplace. This strategy is exactly the one used by early competitive interexchange carriers and callback providers today.

The similarities between these carriers is remarkable. Probably the biggest attribute these competitors share is a marketing philosophy that is based on quickly recognizing and responding to new market opportunities.

"Each of our more than 100 different local markets has distribution, products and access methods that are designed specifically for that marketplace," says Holland Taylor, president of USA Global Link, Fairfield, Iowa.

This type of flexibility is typical of smaller, faster providers. Of course, with substantial discounts vs. the incumbents and few if any regulatory restrictions, capturing market share is only limited by distribution.

One of the biggest differences between these two competitors is distribution, with early U.S. IXC's selling directly to end users and callback providers primarily using agents. Another difference is that the potential for callback providers today is limited to providing international service via rate arbitrage.

What can be expected to happen next in this marketplace? The empirical data from the 1980s in the U.S. is compelling. It paints a clear picture of the future of callback competition--more providers, lower prices and additional choices for users of this service.

Callback providers will continue to gain market share by increasing distribution geographically. They are also modifying their products according to prevailing local market conditions. More importantly, providers are beginning to use technologies that make it easier for customers to use their services.

M.J. Scheele and Associates recently completed a technology survey of many of the largest providers of callback services.

The study found three different switching platforms that account for more than 80% of the carriers surveyed. Personal computers are used by one out of every three carriers. The Summa Four and Harris 2020 central office-based switches are frequently used in callback service.

These switches are especially popular with larger callback providers. The NACT switch is used by a few smaller firms, but the combination of features and price (\$200,000) is very attractive to new carriers entering the market.

The majority--more than 80%--of the carriers surveyed are offering

basic callback services, along with travel and debit cards. The primary form of access for using these products is still the basic ***DID*** approach, but several firms mentioned International 800 and especially X.25 packet switching as playing a more important role in the future.

Fax callback services are also becoming increasingly popular; there are even some carriers providing only fax services. ***International*** ***callback*** providers tend to use the termination services of smaller, specialized IXC's more so than their domestic reseller counterparts.

Callback providers are starting to create features that will differentiate them from each other. Prominent product features include automated account balances, personalized voice prompts, number portability, speed dialing, voice mail and conference calling. Almost all of the providers indicated that they would be offering new features in 1995.

Future Scenarios

More than 75% of the carriers surveyed are planning to implement some form of X.25 switching in their networks in 1995. By using this technology, callback providers will effectively eliminate the "callback" since this form of access does not require dialing a specific ***DID*** and waiting for a return call. Thus the term "callback" will become obsolete as a description of the international rate arbitrage business.

"The latest advance in the callback industry is out-of-band signaling, which adds a new level of performance to callback. This method of call setup uses a separate data network such as X.25 for signaling, which removes the need for U.S. DIDs, but the main advantages are cost and serious improvements in performance," says Andrew Peters, vice president of Crystel Communications International Inc., San Francisco.

Conceptually, the method is quite simple (Figure 2). (Figure 2 omitted) Customers are provided with specialized autodialers on the trunk side of their PBXs or telephones. When an international call is dialed, the autodialer gathers the number and dials into a local public or private rotary (A).

Note the public rotary provides access to a public X.25 network (such as BT or Infonet) and the private rotary may be owned by the callback carrier and provides access to a private line or frame relay network (resulting in faster signaling).

The autodialer uses a modem to transmit the callback number and termination number to the rotary, where it is packetized and transported to the callback switch via the network (B). When the switch receives the packet it calls the autodialer (C).

The moment the switch detects that the autodialer has answered, it dials the termination number (D). It waits to ensure that the first leg of the call is complete before it attempts the second leg. The autodialer will then connect the caller, who will hear the ringing of the termination phone.

These services will require a higher level of technical sophistication to implement, and must be supported by carriers. But the performance advantages are significant--it is relatively safe from ***DID*** and dual-tone multifrequency blocking by PTTs, less expensive and more reliable than ***DID*** signaling, has the ability to dramatically reduce post-dial delay and at this time appears safe from regulation.

Although these technologies appear bright on the horizon, the survey found that only a small percentage of all calls are being completed with enhanced signaling today. The majority of the larger callback carriers should be converting significant parts of their networks to X.25 in 1995 and 1996.

In every telephony market there are customers who look for the lowest cost. For international call completion, callback carriers fulfill that requirement. It is commonly said that PTTs will lower prices, thereby driving these entrepreneurs out of business.

This price reduction by PTTs will not happen for several reasons. The first is that PTTs are not in a position to lower all their international rates to compete with callback carriers who are handling only a small percentage of all calls.

Why discount the entire revenue base to recapture the small minority of customers who have left? It is not a financial option for any PTT.

In addition to revenue pressures, most PTTs operate in highly regulated environments where responding quickly to competition is not possible. Finally, if and when some PTTs roll up their sleeves and put downward pressure on prices, callback providers will follow the route of U.S. resellers and become specialized niche (geographic) marketers.

If an individual PTT attempts to thwart callback in its country by blocking access methods or specific trunks, callback providers will use alternatives to U.S.-based switching. Many of the larger callback providers are deploying offshore switches today.

If adverse conditions continue in that country, the callback provider will move on to another market. Because of this reality, some PTTs are beginning to accept the inevitability of international competition.

"Many Western European PTTs have accepted that there is going to be some form of competition in their market," says Taylor of USA Global Link.

He sites the U.K., Sweden and the Netherlands in particular as countries where competition will exist. Further propelling these carriers is the fact that many callback providers are subsidiaries of U.S. IXCs such as callback market leaders Marin Telemanagement Corp., Petaluma, Calif., and Kall Back, Seattle--which gives them financial stability in changing markets.

Callback will continue to become a major force in the international marketplace. Like the early resellers of domestic interexchange traffic, once created they are very hard to stop. In fact, they seem to continually stay one step ahead of the dominant carrier.

Who's Offering Service?

The following 15 times are the major players in the
international ***callback*** market:

European Telecom Walnut Creek, Calif.

Gateway USA San Luis Obispo, Calif.

Justice Technologies El Segundo, Calif.

IDT (International Discount Telecom) Hackensack, N.J.

ILD (International Long Distance) Los Angeles

Kall Back Seattle

LA Technologies Ft. Lauderdale, Fla.

MTC (Marin Telemanagement Corp.) Petaluma, Calif.

Prairie Systems Omaha, Neb.

Technology Resources Group Denver

Telegroup Fairfield, Iowa

USA Global Link Fairfield, Iowa

USFI New York City

Viatel New York City

World Pass Miami

How Do They Do It?

The vast majority of callback today is completed using U.S. ***direct*** ***inward*** ***dialing*** (***DID***) numbers. A callback user in a foreign country dials a specific ***DID*** number issued by the callback carrier.

The user dials the number and after hearing it ring in the U.S., hands up. The preprogrammed switch then makes the callback to the user, who receives U.S. dial tone and can then complete any international call.

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CC 9190 United States; 8330 Broadcasting & telecommunications industry;
7000 Marketing; 9180 International
CT Telephone service; Market potential; International; Systems design;
Market strategy; Competition; Many companies
GT US

L88 ANSWER 2 OF 20 COPYRIGHT 1995 INFO. ACCESS CO.

AN 93.312178 NLDB

TI Call back resellers give telephone companies a \$120 million headache

SO Telecom Markets, (19 Aug 1993)

ISSN: 0267-1484

PE Financial Times Business Information Ltd

DT Newsletter

LA English

WC 872

TX More than 20 companies have started providing international call-back services in the last three years, according to a report published this month by US telecommunications consultants TeleChoice. Callback services offer users the possibility of setting up international calls via a US service provider rather than making the call directly.

They will generate \$120 million in revenues this year, and have already prompted national telecommunications operators to lower tariffs on certain routes. Call back services are a form of switched services and private line resale (see box).

But call-back service providers, which are all based in the USA, have not been well received by industry regulators. South Korea has passed a law making call-back services illegal. A number of South American countries have also begun looking into enacting laws.

Viatal and International Discount Telecommunications (IDT), which are both located in New York, are the oldest call back providers, according to this month's report The TeleChoice Report on International Call Back Services. Both started providing call back services in 1990.

Viatal has around 15,000 customers and the volume of traffic it handles is increasing by 27 per cent a month. It offers freephone access to call back services from 37 countries. It has recently negotiated a \$21 million contract with American Telephone and Telegraph and an \$18 million contract with MCI for bulk public switched telephone network services.

Increasingly, Viatal is diversifying away from basic international voice services to cushion itself against the fierce price competition that will inevitably come from the XOs. It awarded a \$50 million contract earlier this year to Telemedia International, a subsidiary of Italian international operator Italcable, for the construction of a private network connecting 10 European cities. When completed, Viatal will sell pan-European voice and data services to closed user groups. If it is permitted by national law in different countries, customers will have the possibility of making calls to outside of Europe via the Viatal callback service.

Whereas Viatal has positioned itself as a provider of end-to-end telecommunications services -- customers are billed directly by Viatal -- IDT deals only in switch capacity. Its customers purchase international calling services directly from US long-distance carriers and originating from the IDT switch. IDT simply makes its

9.

money from renting the capacity on its switches. IDT has 2,500 customers including Ford, BMW and Pepsi.

Other call back providers listed by TeleChoice include Telegroup, Telenational, Gateway USA, San Louis Obispo, GlobalCom, Kallback Direct and MTI.

Growth of call back 1992-1996

| #Year | Call back minutes (million) | Call back market (\$ million) |
|-------|-----------------------------------|-------------------------------------|
| 1992 | 17 | n/a |
| 1993 | 58 | 120 |
| 1994 | 177 | 200 |
| 1995 | 266 | 250 |
| 1996 | 372 | 280 |

Source: TeleChoice

Call back is having a major impact on the settlements process, according to TeleChoice. A call made via a call back service provider registers as an outgoing call from the USA. It incurs two accounting rate payments -- one for the call back to the call back customer and a second for the call placed by the customer. This will result in a deterioration of the US balance of payments in telecommunications services. It will also have implications for any country where call back services are used, but it is difficult to gauge whether they will be negative or beneficial.

There are few coherent reactions to the call back market from carriers and governments, says TeleChoice, largely because the complexity of the matter. However, the reaction "will, in most cases be negative," TeleChoice says, because it results in a loss of outgoing international call revenue for the national operator.

TeleChoice predicts that governments which want to protect their national telecommunications operators from losing international traffic will react in one of two ways; declaring call back services illegal or imposing regulation to control call back services.

Some of the Latin American countries have begun following the example of South Korea which is so far the only country to have passed a specific law making call back illegal. Venezuela, for example, has declared call back services illegal, but has yet to take action against providers. TeleChoice says carriers in Latin America have held regional meetings to develop joint strategies for reacting to call back. The US Department of Commerce has told Telechoice that South American carriers have filed a joint complaint to the Federal Communications Commission arguing that the FCC's non-regulation of call back has encouraged companies to provide services in the region. The carriers have urged the FCC to take action, TeleChoice claims, to prevent "misuse of public networks in Latin America."

Latin America attractive: Latin America is the most attractive market for call back in the world, according to TeleChoice. This is because of high international tariffs and accounting rates. Call back services are doing well in all the largest markets -- Brazil, Argentina, Chile and Venezuela.

In Europe, call back services are less effective, TeleChoice argues, because international call charges are already low and resellers such as Worldcom and Viatel are moving towards private-line based services, not call back services.

The call back market in Asia is very open and competitive. Governments in the region favour competition and have not been particularly aggressive in frustrating call back providers. In Japan, Telegroup advertises savings of 40 per cent to 50 per cent on KDD tariffs to Latin America. Viatel focuses more on providing value-added services, according to TeleChoice, and offers a lower discount of 15 per cent.

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CT TL Telecommunications

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AN 93:291469 NLDB

TI Resale entrepreneurs will find life tough with the carriers
SO Telecom Markets, (1 Apr 1993) .
ISSN: 0267-1484.

PB Financial Times Business Information Ltd
DT Newsletter

LA English

WC 857

TX Resellers, which exploit the inflated prices of international telephone services in order to compete with national telecommunications operators (TOs), will never amount to anything more than fringe competitors, according to a new report from UK consultancy Associated International Information Technology (AIIT).

The real winners of the lifting of restrictions on resale, says AIIT in its Resale Report published this month, will be the existing dominant international carriers such as BT, which will use resale to gain international business from one another.

The report covers straightforward resellers of leased circuits, but also includes other arbitrageurs such as the providers of international call-back services or chargecard services. Such operators do not necessarily resell capacity on leased lines, but take advantage of asymmetric tariffs on certain routes, and in some cases re-route calls via a third country -- usually the United States.

Arbitrageurs are likely to win some business but will find established carriers muscling in on their business as a way of positioning themselves in rivals' markets in advance of full liberalisation, says AIIT.

Carriers such as BT, American Telephone and Telegraph (AT&T) and Sprint are positioning themselves in each others' markets by offering international virtual private network (IVPN) services using international circuits leased from international operators in those

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markets. Arbitrageurs are looking for the same international network business. If services offered by the likes of BT are competitively-priced, then they will pose a major threat to resellers, says the report. It argues that new companies entering the market as resellers do not have the expertise or the resources to put together a rival offering.

Major carriers can also use chargecards -- sold to business travellers so that they can call home easily when abroad -- as a means of combating the resellers and gaining access to overseas markets. US operators AT&T, MCI and Sprint and European carriers BT and France Telecom (Telecom Markets, 199/6) have all extended the traditional use of chargecards so that users can also call third countries, but via their home operator. Third-country calling is a way for carriers such as AT&T and Sprint to gain revenue at the expense of the local telephone company because a traveller's call is switched via the USA rather than the local telephone system.

Impact of resale and arbitrage: Some established carriers will over the next eight years lose more than 25 per cent market share on certain routes, such as France to Germany, according to AIIT. But in many cases these carriers will be losing business to each other or to facilities-based full competitors -- such as Mercury in the UK and International Telecom Japan and International Digital Communications in Japan -- rather than to resellers.

Resale blues: There are a number of problems for resellers even on those routes where high public switched telephone network charges seem to give them the opportunity to come in at a lower price by using private circuits.

One problem is that they are likely to have their financial gains wiped out by the interconnection charges levied by the carriers for carrying calls across the PSTN from the resellers' leased lines to the customer's premises.

The growth of the resellers and arbitrageurs will also be limited by their own reluctance to seek business outside the most lucrative routes. The UK to the USA and vice versa is currently the most attractive route, while France to Germany is also likely to develop rapidly. But the dominant facilities-based operators will be able to minimise the loss of business on these routes by reducing their prices. This will leave the resellers without viable businesses. Resellers cannot justify the high up-front investment required to offer services on less busy routes, according to AIIT.

In the longer term, there is a problem for resellers that their costs are higher than those of facilities-based operators. Resellers can survive only while existing tariffs are too high, says the report. Their own services are inherently more expensive than those of established carriers which enjoy the benefits of economies of scale in billing, network management and switching. The new competitors will "have to be large to survive."

The simplest form of arbitrage is straightforward resale, says the report. The operator provides a leased line which is accessed at either end by a customer's own private circuit or through the public switched telephone network (PSTN). Swiss-based WorldCom, which has hubs in London, Frankfurt and New York, is the largest reseller, according to AIIT.

The second most popular form of arbitrage for telecommunications entrepreneurs takes advantage of the asymmetrical tariffs between two countries. For example, it is more expensive to call the United States from Mexico than vice versa. The most successful operator of a call-back service is a US company, International Discount Telecommunications (IDT).

A user calls from his country to IDT in New York, hangs up and is then called back so establishing an open line whereby the user can make calls to the USA, but is billed at US rates. These are likely to be cheaper than the user's home country. When a call is made to a third country, it is still routed via the United States. This is not a huge business. In 1991, says AITT, it was worth about GBP20 million.

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CT TL Telecommunications

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TI Telecoms Discounters Call On Asia

SO CommunicationsWeek International, (14 Jun 1993) pp. 37.
ISSN: 1042-6086.

WC 469

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

TX By Karen Lynch

SINGAPORE - Having created upheaval in other regions with their steeply discounted telephone services, international call - back operators are turning their sights on the Asia-Pacific market.

International Discount Telecommunications Corp. is now beginning a marketing program in the Asia-Pacific, following campaigns in Europe, Africa and Latin America.

IDT president Howard Jonas said his Hackensack, New Jersey, company is particularly interested in Hong Kong, Japan, Singapore, South Korea and Taiwan.

USA Global Link is making its first inroads into Asia after inaugurating a global service six months ago.

The Fairfield, Iowa-based company is operating in Australia, Hong Kong, Japan, Malaysia, New Zealand, the Philippines, Singapore, Taiwan and Thailand. USA Global Link has 150 customers in the Asia-Pacific - out of some 1,000 customers worldwide, said senior vice president Marc Freeman.

New York-based Viatel says it is active in Australia, Japan, the Philippines and other Asia-Pacific countries. Agents are being added every month, a spokesman said.

Call-back operators have made inroads worldwide by giving users outside the United States the same access to U.S. dialtone and lower U.S. international rates that a U.S. user has. Access is usually

established in one of two ways:

A non-U.S. user dials an international 800 number, reaching the operator's U.S. node for calling anywhere in the world. This process establishes an open line over which the user can then conduct one or several calls.

A non-U.S. user dials the U.S. node directly, hangs up, and is called back by the node, establishing the same kind of open line.

Some operators also offer voice mail, credit cards, custom-tailored billing and other added value to their telecoms services.

Growing Segment

Last year, this infant market segment of some 15 operators generated \$44 million in revenue, said Daniel Briere, president of TeleChoice Inc., a consultancy in Verona, New Jersey. About 40 call-back operators will generate \$660 million next year, he said.

Because these operators' services bypass the accounting rate system - the mechanism by which the world's carriers split revenue from international calls - they can cost as much as 60 percent less. While taking only a tiny percentage of overall international telecoms revenue, the operators have nevertheless spurred some established carriers to lower their rates.

'Most of the countries here try hard not to allow it,' Chris Irving, a consultant with PA Consulting Group, in Sydney, said of the Asia-Pacific market. For example, South Korean authorities closed down international lines being used by Viatel there last year.

But, 'there's little that can be done to stop it,' TeleChoice's Briere said. 'Any regulation you put in place will be bypassed,' either with alternative technology or re-interpretation of the regulations.

Viatel, for example, insists that it no longer uses call-back facilities in Asia, but provides only value-added voice services over international 800 lines.

Despite the setback in South Korea, Viatel remains active in the country, the spokesman said, although he would not discuss details.

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CT *PC4811000 Telephone Communications
CC *EC24 Marketing Procedures; EC65 Sales & Consumption
CO *Intl Discount Telecom; USA Global Link; Viatel
GT *CC9 A Asia & Oceania
FEAT COMPANY; LOB

15

L146 ANSWER 35 OF 35 ABI/INFORM COPYRIGHT 1995 UMI

AN 93:59598 ABI-INFORM
DN 00722384; 93-71605
TI Callback services offer users steep discounts
AU Langner, Mark
SO Network World, (21 Jun 1993) Vol. 10, No. 25, p. 28. Journal code:
NWW. Availability: Fulltext online. Photocopy available from
ABI/INFORM 15222.01
ISSN: 0887-7661.
DT Journal
LA English
WC 00490
AB Callback services, a type of international resale services, are
making their mark on the global network market, bringing lower costs
and higher functionality to users calling from overseas locations.
International callback services take advantage of
the vast difference between the outbound international calling rates
of foreign carriers and those of US carriers.

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TX An emerging class of international resale services, dubbed callback services, are making their mark on the global network market, bringing lower costs and higher functionality to users calling from overseas locations.

Callback operators are targeting countries where international calling costs are steep and circuit availability is limited including many countries in South America, Africa and the Far East.

[The market was pioneered by International Discount Telephone (IDT) of Hackensack, N.J., which started service in 1990.

"Our users are cutting their costs by 30% on average, and getting feature capabilities typically five or 10 years ahead of their time in most of these countries," said Martin Varsavsky, president of New York-based Viatel.

International callback services take advantage of the vast difference between the outbound international calling rates of foreign carriers and those of U.S. carriers. Callback service providers arbitrage these rate differences to generate revenue,

That strategy is paying off. The market is growing at a rapid clip and is estimated to be worth more than \$225 million by the end of 1993, according to a report on international callback services from TeleChoice, Inc. More than 40 providers will be operating in more than 50 countries by the end of this year, the report says.

Where U.S. carriers once fought the business tooth and nail, through a series of filings with the Federal Communications Commission, the sheer volume of traffic is legitimizing the industry.

AT&T, one of the most vocal opponents of callback, just signed a \$21 million three-year deal to provide Viatel with overseas communications services.

Callback works quite simply. A caller in a foreign country dials a telephone number to connect with a callback provider's switch. Most callback providers are set up so the customer lets the phone ring twice and hangs up. The switch dials back a predetermined number in the foreign country and provides the customer with U.S. dial tone to make the call.

Where toll-free services are available, customers dial the toll-free access number, enter an authorization code and make calls internationally.

"It's really call forwarding, not callback," said Viatel's Varsavsky. Whatever it is, the savings for users can be substantial.

For example, a phone call from Brazil to the U.S. through Embratel, a Brazilian carrier, costs \$2.75 a minute. The same call handled by Viatel costs \$1.84 a minute, a savings of about 33%.

A call from Brazil to France via Embratel is \$3.30 a minute vs.

\$2.60 a minute using Viatel --a savings of about 20%.

Aside from lower costs, increased functionality is selling the services.

For instance, once callers reach a U.S. dial tone, they can make multiple calls sequentially over the same connection.

Viatel, IDT, Telenational of Omaha, Neb., and Telegroup of Fairfield, Iowa, are the largest providers of callback services. Viatel recently completed financing for a 10-city European private network that will begin offering European virtual network services later this year.

Langner is a senior analyst at TeleChoice, Inc. in Verona, N.J.

CC 9180 International; 8330 Broadcasting & telecommunications industry
CT International; Resale; Telephone service; Cost reduction; Advantages.

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